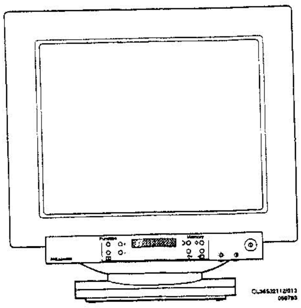
21" Autoscan Colour Monitor

C2182DAS/PA

2182DC/PA

Service
Service
Service



Service Manual

Horizontal frequencies
30 to 82 KHz

C2182DAS/PA is equal to C2182DAS/II, however with a different picture tube, some different panels and some other different components + V0.2.0.1 due to power management ~~and tilt feature~~.
2182DC/PA is a USA-version with USA power cord.
For the technical data of the C2182DAS/PA reference is made to the Service Manual of C2182DAS/II (service codenumber 4822 727 19998).
Only the different units are mentioned in this manual.

Differences:

4822 267 31185	Mains socket assy item 111
4822 451 50097	Mask + logo item 113
4822 131 20595	Picture tube item 114
4822 900 10529	Eprom item 7704
4822 212 31518	Degaussing pwb item 1007
4822 212 31516	Video int. pwb item 1008
4822 212 31241	Low level pwb item 1010
4822 212 31444	Hor. sync. pwb item 1011

Repairable printed wiring boards
(procedure via Philips Consumer Service)

4822 212 31513	Power pwb item 1004
4822 212 31517	Video pwb item 1005
4822 212 31515	Main pwb item 1009

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PHILIPS

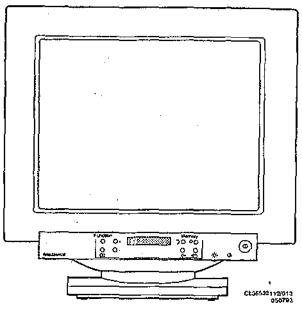
CS41598

20" and 21" Autoscan Colour Monitor

C2082DAS/II
2020DC
C2182DAS/II

Service
Service
Service

V02901



Service Manual

Horizontal frequencies
30 to 82 kHz

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GB 4822 727 19998

PHILIPS

PCS 68 752

1. Technical data

C2082DAS/II
2020DC

General

- Mains voltage	: 90 - 132V or 180 - 264V
- Mains frequency	: 47 - 63Hz
- Power consumption	: 180 W
- *Operating temperature*	: 5°C to 40°C
- Weight	: 37 kg
- Dimensions (H, W, D)	: 485, 498, 538 mm
- Video signal	: 0.714 Vp-p 75 Ω / high impedance (selectable)

Sync. signal

- Separate sync.	: TTL-level
- Composite sync.	: TTL-level
- Composite sync.	: on Green

Picture tube

- Size	: 20 inch (trinitron)
- Light transmission	: 39 %
- EHT voltage	: 27,5 kVolt
- Pitch	: 0.30 mm aperture grille pitch

Video

- Dot rate	: 150 MHz
- Image area:	
* horizontal	: 387,2 mm
* vertical	: 291,6 mm
- Vertical frequency	: 50 - 160 Hz
- Vert. Sync. polarity	: positive or negative
- Horizontal frequency	: 30 to 82 kHz
- Hor. Sync. polarity	: positive or negative
- Resolution	: up to 1280x1024 at 76 Hz refresh rate
- Misconvergence	: 0.3 mm in the center 0.4 mm in the corners

Preset modes

- Number of preset modes	: 22 (14 factory presets)

* Technical data are subject to change without notice

C2182DAS/II

General

- Mains voltage	: 90 - 132V or 180 - 264V
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- Dimensions (H, W, D)	: 485, 498, 538 mm
- Video signal	: 0.714 Vp-p 75 Ω / high impedance *(selectable)*

Sync. signal

- Separate sync.	: TTL-level
- Composite sync.	: TTL-level
- Composite sync.	: on Green

Picture tube

- Size	: 21 inch (flat)
- Light transmission	: 52 %
- EHT voltage	: 27,5 kVolt
- Pitch	: 0.28 mm

Video

- Dot rate	: 150 MHz
- Image area:	
* *horizontal*	: 406,4 mm
* vertical	: 304,8 mm
- Vertical frequency	: 50 - 160 Hz
- Vertical sync. polarity	: positive or negative
- Horizontal frequency	: 30 to 82 kHz
- Horizontal sync. polarity	: positive or negative
- Resolution	: up to 1280x1024 at 76 Hz refresh rate : up to 1600x1280 at 60 Hz refresh rate
- Misconvergence	: 0.3 mm in the center 0.5 mm in the corners

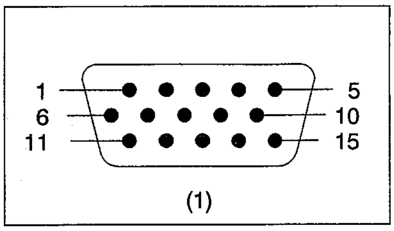
Preset modes

- Number of preset modes	: 22 (14 factory presets)

* Technical data are subject to change without notice

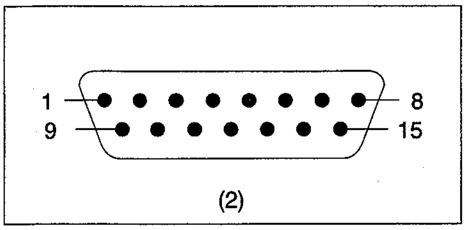
2. Connection facilities

Pin assignment 15p "D" shell (3 rows)



(1)

Pin assignment 15p "D" shell (2 rows)



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INPUT- OUTPUT SIGNALS

15 pins D-Shell connector **D-Shell adapter (3 rows to 2) rows)**

Pin	Assignment	Sensitivity	Terminal impedance	Assignment	Sensitivity	Terminal impedance
1	Red Video input	RGB-analog	75Ω	Red ground		
2	Green Video input/ sync. on green	RGB-analog	75Ω	Red Video input/	RGB-analog	75Ω
3	Blue Video input	RGB-analog	75Ω	Composite sync.		2.2 kΩ
4	Ident output (connected to 10)			Sense 0		
5	Self test input (ground)			Green Video input (Sync. on green)	RGB-analog	75Ω
6	Red Video ground			Green ground		
7	Green Video ground			Sense 1		
8	Blue Video ground			Not connected		
9	Not connected (no pin)			Blue Video input	RGB-analog	75Ω
10	Logic ground			Sense 2		
11	Ident output (connected to 10)			Comp-sync and V-sync ground		
12	Not connected			V-sync		
13	Horizontal sync. (or Hor. + Vert. sync)	TTL Level L=0-0.8V H=2.4 -5V	2.2 Ωk pull down	Blue Video ground		
14	Vertical sync.	TTL Level L=0-0.8V H=2.4 -5V	2.2 Ωk pull down	H-sync ground		
15	Not connected (no pin)			H-sync		

Technical data

Factory Preset Video Timings

Item	Unit	1280*1024 64kHz / 60Hz	640*350 VGA mode 1	640*400 VGA mode 2	640*480 VGA mode 3	800*600 S-VGA std.
Mem. channnel	No.	1	2	3	4	5
Pixel rate	MHz	107.3	25.175	25.175	25.175	35.86
Hor. freq.	kHz	63.9	31.468	31.468	31.468	35.16
Vert. freq.	Hz	60	69.93	69.93	59.94	56.25
Hor. resol.	dots	1280	640	640	640	800
Vert. resol.	H	1024	350	400	480	600
Period (hor.)	dots	1680	800	800	800	1020
Blanking	dots	400	160	160	160	220
Sync delay	dots	30	16	16	16	24
Sync width	dots	108	96	96	96	72
Interlace	Y/N	N	N	N	N	N
Period (vert)	lines	1065	450	450	525	625
Blanking	lines	41	100	50	45	25
Sync delay	lines	3	37	12	10	1
Sync width	lines	3	2	2	2	2
Sync on green	Y/N	Y	N	N	N	N
TTL H sync	±		+	-	-	+
TTL V sync	±		-	+	-	+
TTL comp sync	±					
Hor. width	mm/20" mm/21"	340/20" 356/21"	350/20" 380/21"	350/20" 380/21"	350/20" 380/21"	350/20" 350/21"
Vert. width	mm/20" mm/21"	272/20" 285/21"	263/20" 285/21"	263/20" 285/21"	263/20" 285/21"	263/20" 263/21"

Item	Unit	800*600 S-VGA	XGA	640*480 MacIIcx	800*600 VESA 1	1024*768 VESA 2
Mem. channnel	**No.**	6	7	8	9	10
Pixel rate	MHz	40	44.9	30.25	50	65
Hor. freq.	kHz	37.88	35.52	35.0	48.077	48.36
Vert. freq.	Hz	60.3	87/43.5	66.7	72.187	60
Hor. resol.	dots	800	1024	640	800	1024
Vert. resol.	H	600	384/768	480	600	768
Period (hor.)	dots	1056	1264	864	1040	1344
Blanking	dots	256	240	224	240	320
Sync delay	dots	40	8	64	56	25
Sync width	dots	128	176	64	120	136
Interlace	Y/N	N	Y	N	N	N
Period (vert)	lines	628	409	525	666	806
Blanking	lines	28	25	45	66	38
Sync delay	lines	1	0/0.5	3	37	3
Sync width	lines	4	4	3	6	6
Sync on green	Y/N	N	N	N	N	N
TTL H sync	±	+	+	-	+	+
TTL V sync	±	+	+	-	+	+
TTL comp sync	±					
Hor. width	mm/20" mm/21"	350/20" 380/21"	350/20" 380/21"	350/20" 380/21"	350/20" 380/21"	350/20" 380/21"
Vert. width	mm/20" mm/21"	263/20" 285/21"	263/20" 285/21"	263/20" 285/21"	263/20" 285/21"	263/20" 285/21"

Item	Unit	1024*768 VESA 3	1152*870 69kHz / 75Hz	832*624 50kHz / 75Hz	1280*1024 81kHz / 76Hz	
Mem. channnel	No.	11	12	13	14	
Pixel rate	MHz	75	100	57.28	135	
Hor. freq.	kHz	56.47	68.68	49.7	81.13	
Vert. freq.	Hz	70.07	75	75.18	76.1	
Hor. resol.	dots	1024	1152	832	1280	
Vert. resol.	H	768	870	624	1024	
Period (hor.)	dots	1328	1456	1152	1664	
Blanking	dots	304	304	320	384	
Sync delay	dots	24	32	32	32	
Sync width	dots	136	128	64	104	
Interlace	Y/N	N	N	N	N	
Period (vert)	lines	806	915	667	1066	
Blanking	lines	38	45	43	42	
Sync delay	lines	3	3	1	2	
Sync width	lines	6	3	3	8	
Sync on green	Y/N	N	N	N	N	
TTL H sync	±	+	-	-		
TTL V sync	±	+	-	-		
TTL comp sync	±				-	
Hor. width	mm/20" mm/21"	350/20" 380/21"	350/20" 380/21"	350/20" 380/21"	340/20" 356/21"	
Vert. width	mm/20" mm/21'	263/20" 285/21"	263/20" 285/21"	263/20" 285/21"	272/20" 285/21"	

3. Warnings and Notes

Warnings

1. Safety regulations require that the unit should be returned in its original conditions and that components identical to the original components are used. The safety components are indicated by the symbol ⚠.

2. In order to prevent damage to **ICs** and transistors, all high-voltage flash-overs must be avoided. In order to prevent damage to the picture tube, the method shown in Fig. 3.1 should be used to discharge the picture tube. Use a high-voltage probe and a multimeter (position DC-V). Discharge until the meter reading is **0 V** (after approx. 30s).

3. **ESD**

   All **ICs** and many other semiconductors are sensitive to electrostatic discharges (ESD). Careless handling during repair can drastically shorten the life. Make sure that during repair you are connected by a pulse band with resistance to the same potential as the earth of the unit. Keep components and tools also at this same potential.

4. When repairing a unit, always connect it to the mains voltage via an isolating transformer.

5. Be careful when taking measurements in the high-voltage section and on the picture tube panel.

6. It is recommended that safety goggles are worn when replacing the picture tube.

7. When making settings, use plastic rather than metal tools. This will prevent any short-circuit and the danger of a circuit becomes unstable.

8. Never replace modules or other components while the unit is switched on.

9. Together with the deflection unit the picture tube is used as an integrated unit. Adjustment of this unit during repair is therefor not recommended.

10. After repair the wiring should be fastened once more in the cable clamps for this purpose.

Notes

1. The semiconductors indicated in the circuit diagram(s) and in the parts lists are completely interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

2. The direct voltages and oscillograms are average voltages. They have been measured by using the service test software and under the following conditions:
   - Signal pattern : grey scale.
   - Mode: VGA (640 * 480) 31,5kHz/60Hz.
   - Contrast and Brightness to maximum.

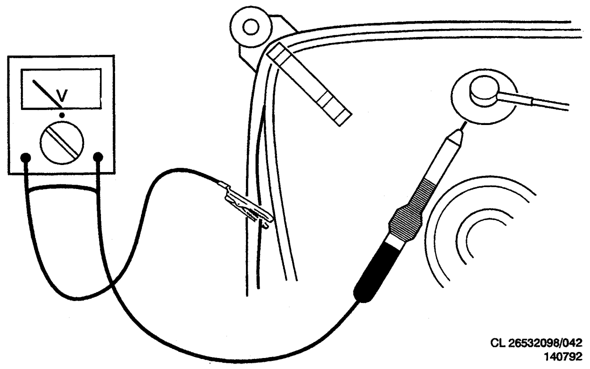


Fig. 3.1

4. Mechanical instructions

General

To be able to perform measurements on the circuit boards, the unit should placed in the service position first. For the location of the circuit boards and the item numbers mentioned in this chapter we refer to the exploded view drawing.

Rear cover, item 101
- Remove the screws , item 112 (4x)
- The rear cover can now be removed.

Top screening, item 37
- Loosen the crews item 24 (5x) a few turns.
- The screening can now be removed by sliding it back wards.

Screening left, item 5
- Loosen the screws item 8 (3x) a few turns.
- The screening can now be removed by swinging it to the left side.
- The PCB boards, "Main Panel", "Horizontal Sync. Panel", "Low Signal Panel" and "Degaussing Panel" are than reachable.

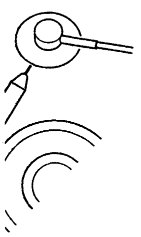
Screening right, item 51
- Loosen the screws item 8 (3x) a few turns.
- The screening can now be removed by swinging it to the right side.
- The PCB Board, " Supply Panel" is then reachable.

Rear screening with input sockets, item 11
- Remove the screws item 10 (9x)
- The screening with input sockets can now be pulled backwards.
  Remark: By leaving the wire trees connected, the monitor is still working.
- The PCB Boards, "Video Panel", "Video Interface Panel" and CRT Panel are than reachable.

Abbreviations

ABBREVIATIONS

AA1200V : HORIZONTAL DEFLECTION YOKE (HOT)
AA200V/AE200V : JUMPER ON H DEF. SUPPLY VOLTAGE
ABL : BEAM CURRENT INDICATION FOR BEAM LIMITER CIRCUIT (-1V/0.1mA)
AG200 : HORIZONTAL DEFLECTION YOKE
BAL/PAR.IN : BALANCE PARALLELOGRAM INPUT
BCCE : BUFFERED CONVERGENCE CHIP ENABLE
BCCE0 : BUFFERED CONVERGENCE CHIP ENABLE 0
BCCE1 : BUFFERED CONVERGENCE CHIP ENABLE 1
BC OUT : BUFFERED CLOCK CONVERGENCE DATA OUT
BCK : BUFERED CLOCK
BDIN : BUFFERED DATA INPUT
BDOUT : BUFFERED DATA OUTPUT
BHOR : BUFFERED HORIZONTAL SYNC
BLANK : LOGICAL BLANK SIGNAL ACTING ON HVP SIGNAL (ACTIVE HIGH)
BLD : BUFFERED LOAD
BLP : BUFFERED PARALLEL LOADS
BRXD : BUFFERED RECIEVER DATA
BRIGHT : DC NEGATIVE VOLTAGE FOR G1 CONTROL (BRIGHTNESS)
BSTB : BUFFERED STROBE
BTXD : BUFFERED TRANSMITTER DATA
BVER : BUFFERED VERTICAL SYNC
CCE : CONVERGENCE CHIP ENABLE
CDOUT : CONVERGENCE DATA OUT
CLAMP : BACKPORCH SIGNAL FOR VIDEO AMP. DC RESTORATION
CLK : CLOCK SIGNAL
COMP : COMPENSATION
DATA-IN : SERIAL DATA SIGNAL FOR THE MC14410 DACs
DATA-OUT : SERIAL DATA OUT
DATA-V : SERIAL DATA FOR VIDEO DACs
DATIN : SERIAL DATA INPUT
DATOUT : SERIAL DATA OUTPUT
DC.V.CONV : DC VERTICAL CONVERGENCE
DC.V.HEIGHT : DC VERTICAL HEIGHT
DC.H.WIDTH : DC HORIZONTAL WIDTH
DC.H.SHIFT : DC HORIZONTAL SHIFT
DEGAUSS : ONE-SHOT SIGNAL FOR DEGAUSSING CIRCUIT
DEL-ST : DELAYED STROBE FOR S-CORRECTION CAPACITOR LOADING
DF OUT : DYNAMIC FOCUS OUTPUT
DIN- : SERIAL DATA TO LOGIC BOARD
DOUT : DATA OUT
E : ENABLE
EN1/EN2 : COMPLEMENTARY SIGNAL FOR VIDEO INPUT SELECTION (ACTIVE HIGH)
E/W-KEY IN : EAST/WEST KEYSTONE INPUT
GATE : SIGNAL AT HALF VERTICAL FREQ. FOR PERIOD MEASUREMENT
H1 : D-SUB HORIZONTAL OR COMPOSITE SYNC INPUT
HD : DRIVE SIGNAL FOR HORIZONTAL OUTPUT STAGE
H.DC-SHIFT : HORIZONTAL DC SHIFT
H-DRIVE : HORIZONTAL OSCILLATOR OUTPUT
HFL : HORIZONTAL RETRACE PULSE (FROM POWER STAGE)
HFLY : HORIZONTAL FLYBACK VIDEO
H-H+V : BNC HORIZONTAL OR COMPOSITE SYNC INPUT
H-H+V-S : SELECTED HORIZONTAL OR COMPOSITE SYNC
HOR : HORIZONTAL SYNC (TO LOGIC BOARD)
H-PHASE : DC CONTROL FOR HORIZONTAL OSCILLATOR PHASE ADJUSTMENT
HV-EN : ENABLE SIGNAL FOR HIGH VOLTAGE GEN. (ACTIVE HIGH)
HV-ON : HIGH VOLTAGE STATUS INDICATION (+5V IF ON)
HVP : DEFLECTION FAIL SIGNAL ACTING ON G1 CIRCUIT (ACTIVE LOW)



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BDOUT	: BUFFERED DATA OUTPUT
BHOR	: BUFFERED HORIZONTAL SYNC
BLANK	: LOGICAL BLANK SIGNAL ACTING ON HVP SIGNAL (ACTIVE HIGH)
BLD	: BUFFERED LOAD
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DC.V.HEIGHT	: DC VERTICAL HEIGHT
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DC.H.SHIFT	: DC HORIZONTAL SHIFT
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DEL-ST	: DELAYED STROBE FOR S-CORRECTION CAPACITOR LOADING
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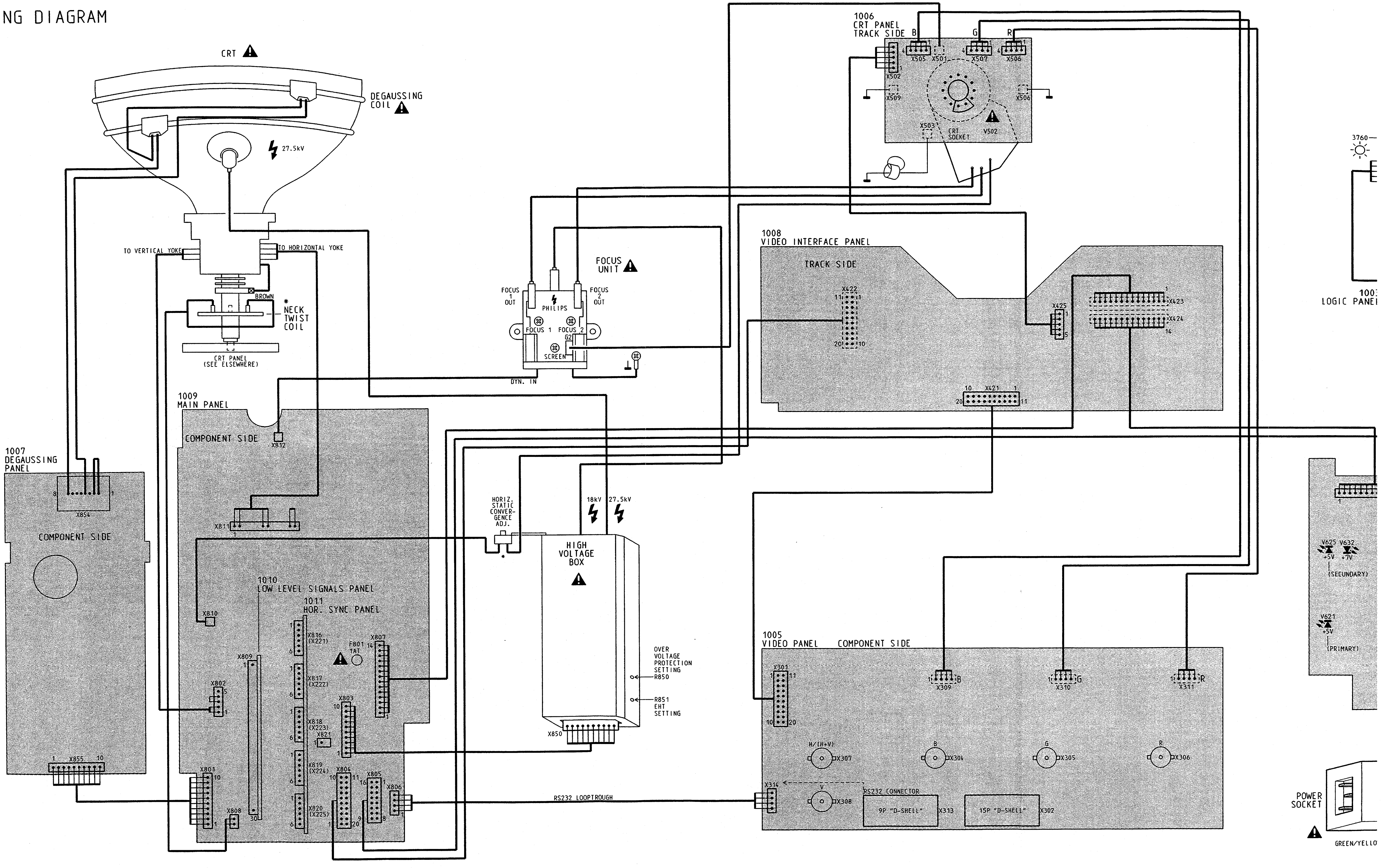
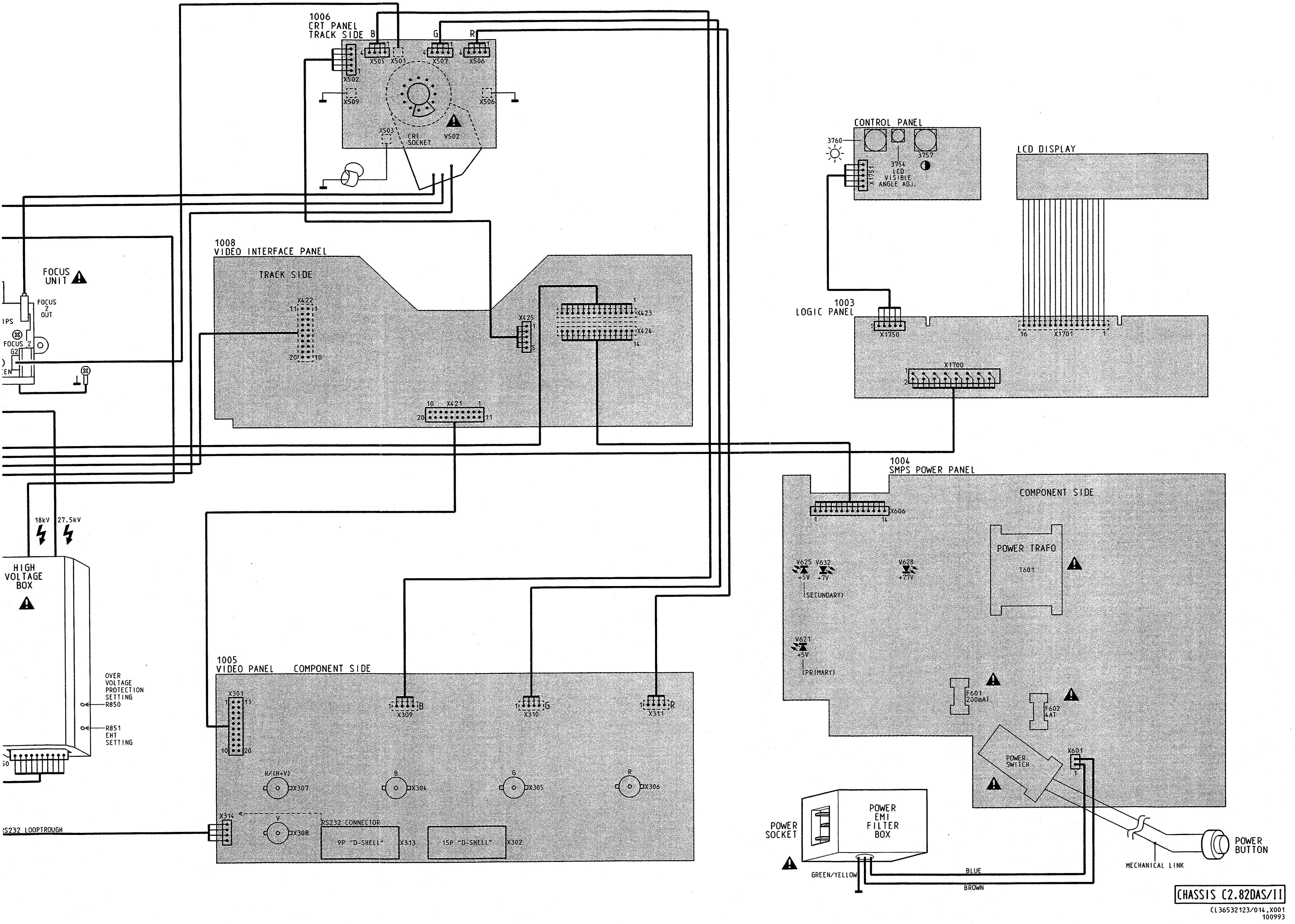
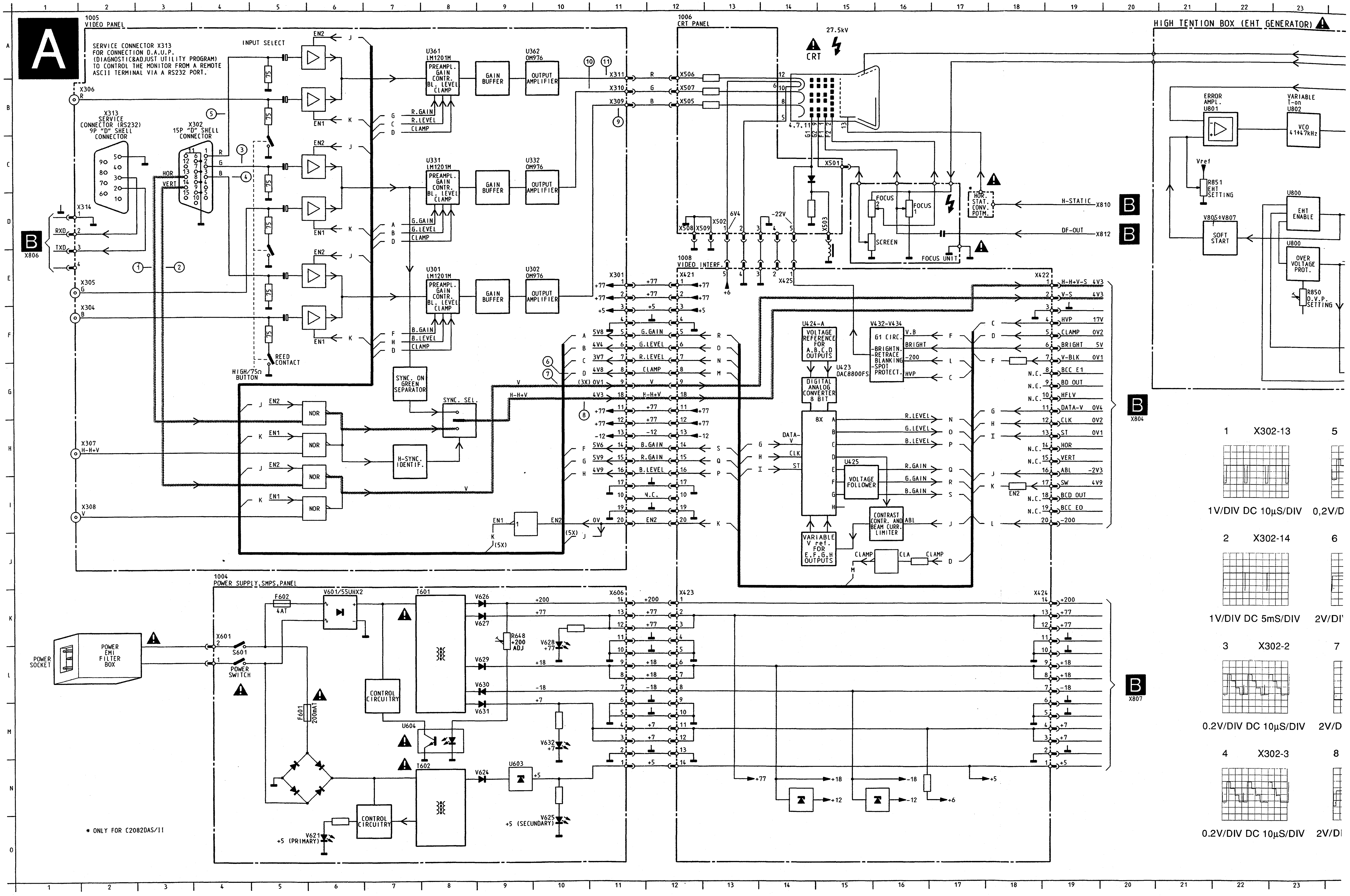
GATE	: SIGNAL AT HALF VERTICAL FREQ. FOR PERIOD MEASUREMENT
H1	: D-SUB HORIZONTAL OR COMPOSITE SYNC INPUT
HD	: DRIVE SIGNAL FOR HORIZONTAL OUTPUT STAGE
H.DC-SHIFT	: HORIZONTAL DC SHIFT
H-DRIVE	: HORIZONTAL OSCILLATOR OUTPUT
HFL	: HORIZONTAL RETRACE PULSE (FROM POWER STAGE)
HFLY	: HORIZONTAL FLYBACK VIDEO
H-H+V	: BNC HORIZONTAL OR COMPOSITE SYNC INPUT
H-H+V-S	: SELECTED HORIZONTAL OR COMPOSITE SYNC
HOR	: HORIZONTAL SYNC (TO LOGIC BOARD)
H-PHASE	: DC CONTROL FOR HORIZONTAL OSCILLATOR PHASE ADJUSTMENT
HV-EN	: ENABLE SIGNAL FOR HIGH VOLTAGE GEN. (ACTIVE HIGH)
HV-ON	: HIGH VOLTAGE STATUS INDICATION (+5V IF ON)
HVP	: DEFLECTION FAIL SIGNAL ACTING ON G1 CIRCUIT (ACTIVE LOW)
H.CONV	: DC CONTROL FOR HORIZONTAL STATIC CONVERGENCE
H.CONV.F	: FEEDBACK FROM HORIZONTAL STATIC CONVERGENCE AMPLIFIER
H.DC SHIFT	: DRIVE SIGNAL FOR RASTER CENTERING
H.FAIL	: HORIZONTAL DEFLECTION STATUS (+5V IF ON
H.LIN-FB	: FEEDBACK FROM HORIZONTAL LINEARITY COIL
H.LIN-OUT	: DC CONTROL FOR HORIZONTAL LINEARITY COIL
H.STATIC	: HORIZONTAL CONVERGENCE OUTPUT
LD	: LAOD
LDAC	: LOAD SIGNAL FOR GEOMETRY DAC,S
LOCKPLL	: HORIZONTAL OSCILLATOR STATUS INDICATION
N.C.	: NOT CONNECTED
NOSYNC	; HORIZONTAL SYNC STATUS INDICATION
OUT-LOCK	: HORIZONTAL OSCILLATOR LOCKED / NOT LOCKED INDICATION
PL	: STROBE SIGNAL FOR U806 (PARALLEL LOAD)
POL-HOR	: HORIZONTAL SYNC POLARITY INDICATION
POL-VER	: VERTICTAL SYNC POLARITY INDICATION
RD	: DRIVE SIGNAL FOR HORIZONTAL SUPPLY MODULATOR (V806)
RESBLK	: RESET BLANK
RFSS	: FLIP-FLOP RESET SIGNAL
RXD	: RECEIVE DATA (RS232 PORT)
R.RELE	: REED RELAIS CONNECTION FOR TERMINATION SWITCH
R/G/B GAIN	: DC CONTROL FOR VIDEO AMPLIFICATION
R/G/B IN 1	: BNC VIDEO INPUTS
R/G/B IN 2	: D-SUB VIDEO INPUTS
R/G/B LEVEL	: DC CONTROL FOR VIDEO CUT-OFF ADJUSTMENT
R/G/B OUT	: VIDEO AMPLIFIERS OUTPUT TO CRT
RSEL	: LCD DATA DRIVE (OUTPUT MICROPROCESSOR)
SEROUT	: SERIAL OUT
SDO	: SERIAL DATA OUT
ST	: STROBE SIGNAL
STB	: STROBE
STM	: STROBE SIGNAL FOR THE MC14410 DACs (LOW LEVEL BOARD)
SW	: INPUT SELECTION (BNC/D-SUB) CONTROL
TRMLCD	: TRIMMER LCD
TXD	: TRANSMIT DATA (RS232 PORT)
V	: BNC VERTICAL SYNC INPUT)
V1	: D-SUB VERTICAL SYNC INPUT
V-DRIVE	: DRIVE SIGNAL FOR THE VERTICAL DEFLECTION OUTPUT STAGE
VDYN	: DRIVE SIGNAL FOR VERTICAL DYNAMIC FOCUS AMPLIFIER
VDYNF	: FEEDBACK SIGNAL FROM VERTICAL DYNAMIC FOCUS AMPLIFIER
VERT	: VERTICAL SYNC (TO LOGIC BOARD)
VF	: VERTICAL FLYBACK (CALLED VF1 AFTER THE JUMPER ON YOKE CONN.)
V-PULSE	: RAMP GENERATOR DISCHARGE PULSE
V-S	: SELECTED VERTICAL SYNC
VY1,VY2	: VERTICAL DEFLECTION YOKE
V.BLK	: SIGNAL FOR VERTICAL RETRACE SUPPRESSION
V.DYN.CON.1	: VERTICAL CONVERGENCE FEEDBACK (FROM NECK TWIST COIL)
V.DYN.CON.2	: VERTICAL CONVERGENCE DRIVE
V.FAIL	: VERTICAL DEFLECTION STATUS
V.SYNC	: VERTICAL SYNC (AFTER PASSING SYNC PROCESSING CIRCUIT)
Y.CONV.F.B.	: VERTICAL CONVERGENCE FEEDBACK
Y.CONV.IN	: VERTICAL CONVERGENCE INPUT
V.PAR.OUT	: VERTICAL PARABOLA OUT
Y.SAWT OUT	: VERTICAL SAWTOOTH OUT
V.SHIFT	: VERTICAL SHIFT
WR	: WRITE

WIRING DIAGRAM


CRT
DEGAUSSING COIL
27.5kV
TO VERTICAL YOKE
TO HORIZONTAL YOKE
BROWN
* NECK TWIST COIL
CRT PANEL (SEE ELSEWHERE)
1006 CRT PANEL TRACK SIDE
B
G
R
X505
X501
X507
X506
X502
X509
X508
X503
CRT SOCKET
V502
FOCUS UNIT
FOCUS 1 OUT
FOCUS 2 OUT
PHILIPS
FOCUS 1
FOCUS 2
G2
SCREEN
DYN. IN
1008 VIDEO INTERFACE PANEL
TRACK SIDE
X422
X425
X423
X424
X421
3760
1003 LOGIC PANEL
1009 MAIN PANEL
COMPONENT SIDE
X812
X811
X810
1010 LOW LEVEL SIGNALS PANEL
1011 HOR. SYNC PANEL
X816 (X221)
X817 (X222)
X818 (X223)
X819 (X224)
X820 (X225)
X821
F801 1A1
X807
X803
X809
X802
X801
X808
X804
X805
X806
1007 DEGAUSSING PANEL
X854
COMPONENT SIDE
X855
HORIZ. STATIC CONVERGENCE ADJ.
18kV
27.5kV
HIGH VOLTAGE BOX
OVER VOLTAGE PROTECTION SETTING
R850
R851 EHT SETTING
X850
RS232 LOOPTROUGH
1005 VIDEO PANEL COMPONENT SIDE
X301
X309
X310
X311
H/(H+V)
X307
X304
X305
X306
X314
V
X308
RS232 CONNECTOR
9P "D-SHELL"
X313
15P "D-SHELL"
X302
V625
V632
+5V
+7V
(SECUNDARY)
V621
+5V
(PRIMARY)
POWER SOCKET
GREEN/YELLO

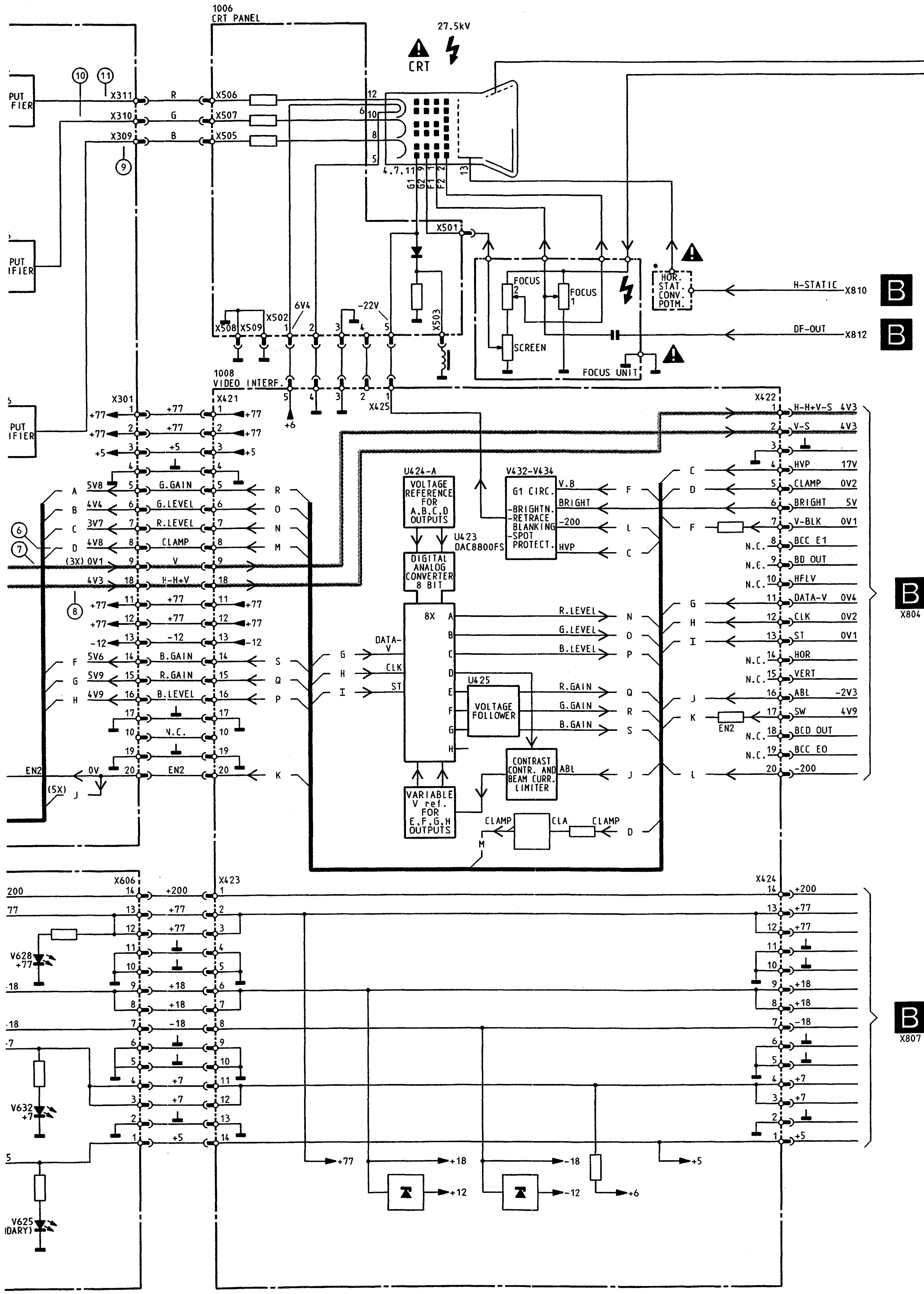
* ONLY FOR C2082DAS/BA

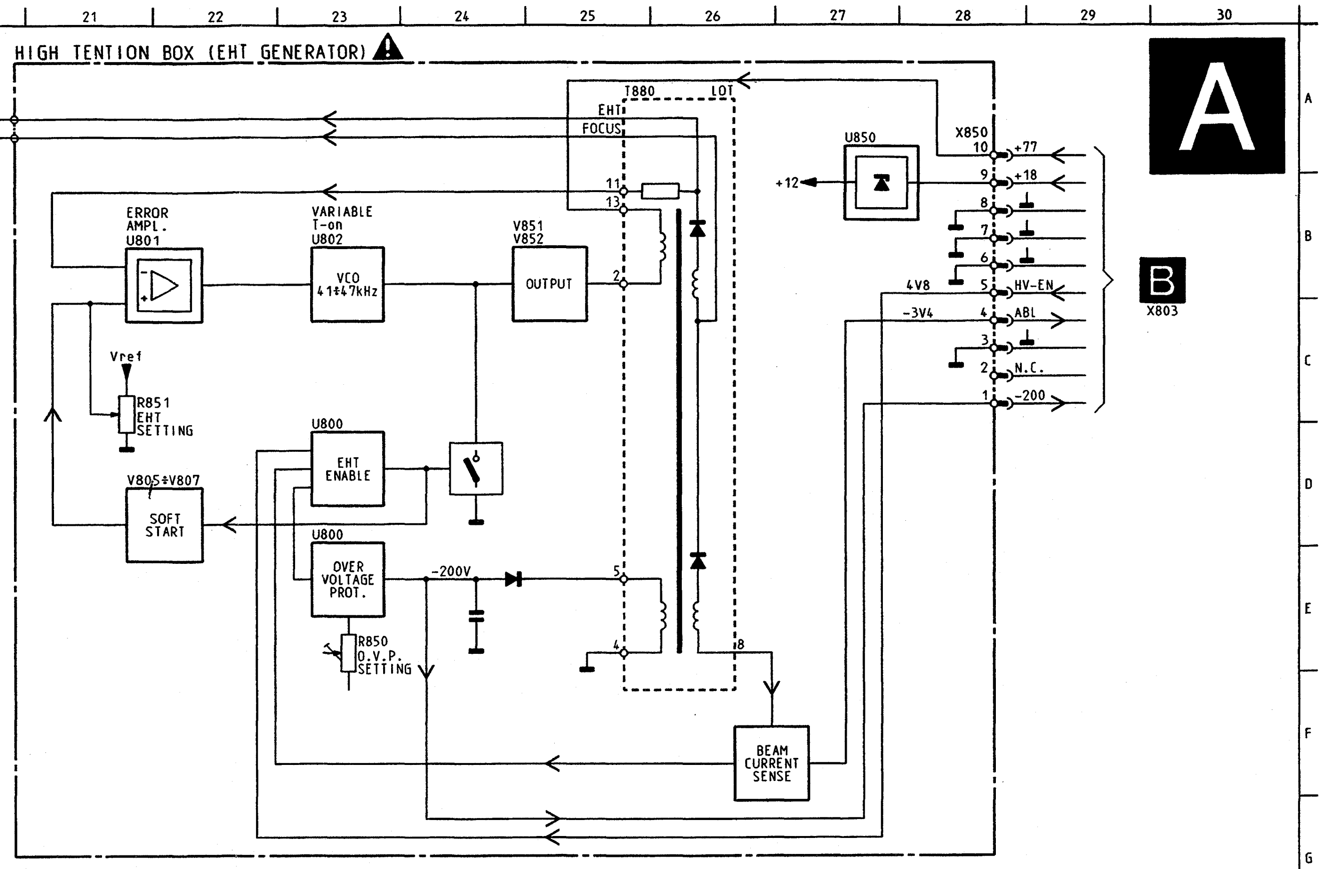

1006
CRT PANEL
TRACK SIDE
B
G
R
X505
X501
X507
X506
X502
X509
X506
X503
CRT SOCKET
V502
CONTROL PANEL
3760
3754 LCD VISIBLE ANGLE ADJ.
3757
X1751
LCD DISPLAY
1008
VIDEO INTERFACE PANEL
TRACK SIDE
X422
X425
X423
X424
X421
FOCUS UNIT
FOCUS 2 OUT
FOCUS 2
G2
1003
LOGIC PANEL
X1750
X1701
X1700
1004
SMPS POWER PANEL
COMPONENT SIDE
X606
POWER TRAFO
T601
V625 V632
+5V +7V
(SECUNDARY)
V628
+77V
V621
+5V
(PRIMARY)
F601 200mAT
F602 4AT
X601
POWER SWITCH
18kV
27,5kV
HIGH VOLTAGE BOX
OVER VOLTAGE PROTECTION SETTING
R850
R851 EHT SETTING
1005
VIDEO PANEL COMPONENT SIDE
X301
X309
X310
X311
H/(H+V)
X307
X304
X305
X306
V
X308
X314
RS232 LOOPTROUGH
RS232 CONNECTOR
9P "D-SHELL"
X313
15P "D-SHELL"
X302
POWER SOCKET
POWER EMI FILTER BOX
GREEN/YELLOW
BLUE
BROWN
MECHANICAL LINK
POWER BUTTON
CHASSIS C2.82DAS/II
CL 36532123/014,X001
100993


A
1005
VIDEO PANEL
SERVICE CONNECTOR X313
FOR CONNECTION D.A.U.P.
(DIAGNOSTIC&ADJUST UTILITY PROGRAM)
TO CONTROL THE MONITOR FROM A REMOTE
ASCII TERMINAL VIA A RS232 PORT.
INPUT SELECT
X306
R
X313
SERVICE
CONNECTOR (RS232)
9P "D" SHELL
CONNECTOR
X302
15P "D" SHELL
CONNECTOR
HOR
VERT
X314
RXD
TXD
B
X806
X305
G
X304
B
X307
H-H+V
X308
V
REED
CONTACT
HIGH/75Ω
BUTTON
EN1
EN2
NOR
SYNC. ON
GREEN
SEPARATOR
SYNC. SEL.
H-SYNC.
IDENTIF.
U361
LM1201M
U331
LM1201M
U301
LM1201M
PREAMPL.
GAIN
CONTR.
BL. LEVEL
CLAMP
GAIN
BUFFER
U362
OM976
U332
OM976
U302
OM976
OUTPUT
AMPLIFIER
R.GAIN
R.LEVEL
G.GAIN
G.LEVEL
B.GAIN
B.LEVEL
CLAMP
X311
X310
X309
X301
1006
CRT PANEL
27.5kV
CRT
X506
X507
X505
X501
X502
X503
X508
X509
6V4
-22V
FOCUS
SCREEN
FOCUS UNIT
HOR.
STAT.
CONV.
POTM.
H-STATIC
X810
DF-OUT
X812
1008
VIDEO INTERF.
X421
X425
X422
U424-A
VOLTAGE
REFERENCE
FOR
A,B,C,D
OUTPUTS
U423
DAC8800FS
DIGITAL
ANALOG
CONVERTER
8 BIT
DATA-V
CLK
ST
U425
VOLTAGE
FOLLOWER
CONTRAST
CONTR. AND
BEAM CURR.
LIMITER
VARIABLE
V ref.
FOR
E,F,G,H
OUTPUTS
V432-V434
G1 CIRC.
-BRIGHTN.
-RETRACE
BLANKING
-SPOT
PROTECT.
V.B
BRIGHT
HVP
H-H+V-S 4V3
V-S 4V3
HVP 17V
CLAMP 0V2
BRIGHT 5V
V-BLK 0V1
BCC E1
BD OUT
HFLV
DATA-V 0V4
CLK 0V2
ST 0V1
HOR
VERT
ABL -2V3
SW 4V9
BCD OUT
BCC E0
-200
X804
HIGH TENTION BOX (EHT GENERATOR)
ERROR
AMPL.
U801
VARIABLE
T-on
U802
VCO
41÷47kHz
Vref
R851
EHT
SETTING
U800
EHT
ENABLE
V805+V807
SOFT
START
OVER
VOLTAGE
PROT.
R850
O.V.P.
SETTING
1004
POWER SUPPLY,SMPS,PANEL
POWER
SOCKET
POWER
EMI
FILTER
BOX
X601
S601
POWER
SWITCH
F602
4AT
F601
200mAT
V601/55UHX2
T601
T602
CONTROL
CIRCUITRY
U604
U603
V626
V627
V629
V630
V631
V624
R648
+200
ADJ
V628
V632
V625
+5 (SECUNDARY)
V621
+5 (PRIMARY)
X606
X423
X424
X807
+200
+77
+18
-18
+7
+5
+12
+6
* ONLY FOR C2082DAS/II
1 X302-13
1V/DIV DC 10µS/DIV
2 X302-14
1V/DIV DC 5mS/DIV
3 X302-2
0.2V/DIV DC 10µS/DIV
4 X302-3
0.2V/DIV DC 10µS/DIV
5
0,2V/D
6
2V/DI
7
2V/D
8
2V/DI

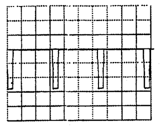
Functional block diagram

Functional block diagram


1006 CRT PANEL
27.5kV
CRT
X311
X310
X309
R
G
B
X506
X507
X505
X501
X502
X508 X509
X503
6V4
-22V
FOCUS
SCREEN
FOCUS UNIT
HOR. STAT. CONV. POTM.
H-STATIC X810
DF-OUT X812
1008 VIDEO INTERF.
X301
X421
X425
X422
U424-A VOLTAGE REFERENCE FOR A,B,C,D OUTPUTS
U423 DAC8800FS
DIGITAL ANALOG CONVERTER 8 BIT
V432-V434 G1 CIRC.
-BRIGHTN. -RETRACE BLANKING -SPOT PROTECT.
V.B
BRIGHT
-200
HVP
U425 VOLTAGE FOLLOWER
CONTRAST CONTR. AND BEAM CURR. LIMITER
ABL
VARIABLE V ref. FOR E,F,G,H OUTPUTS
CLAMP
CLA
DATA-V
CLK
ST
R.LEVEL
G.LEVEL
B.LEVEL
R.GAIN
G.GAIN
B.GAIN
G.GAIN
R.GAIN
B.LEVEL
G.LEVEL
R.LEVEL
CLAMP
H-H+V
EN2
H-H+V-S 4V3
V-S 4V3
HVP 17V
CLAMP 0V2
BRIGHT 5V
V-BLK 0V1
BCC E1
BD OUT
HFLV
DATA-V 0V4
CLK 0V2
ST 0V1
HOR
VERT
ABL -2V3
SW 4V9
BCD OUT
BCC E0
-200
N.C.
X804
X606
X423
X424
+200
+77
+18
-18
+7
+5
+12
-12
+6
V628
V632
V625
X807
B

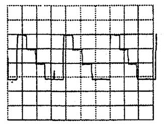

HIGH TENTION BOX (EHT GENERATOR)
T880
LOT
EHT
FOCUS
ERROR AMPL. U801
VARIABLE T-on U802
VCO 41÷47kHz
V851 V852
OUTPUT
Vref
R851 EHT SETTING
U800 EHT ENABLE
V805÷V807 SOFT START
U800 OVER VOLTAGE PROT.
-200V
R850 O.V.P. SETTING
BEAM CURRENT SENSE
U850
X850
+12
+77
+18
4V8
-3V4
HV-EN
ABL
N.C.
-200
B
X803
A

1 X302-13



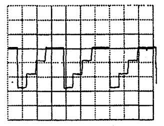
1V/DIV DC 10µS/DIV

5 X302-1



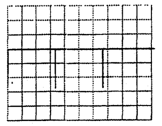
0,2V/DIV DC 10µS/DIV

9 X309



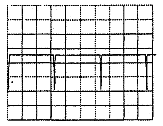
10V/DIV AC 10µS/DIV

2 X302-14



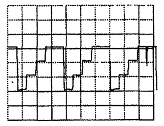
1V/DIV DC 5mS/DIV

6 X301-8



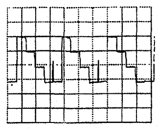
2V/DIV DC 10µS/DIV

10 X310



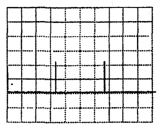
10V/DIV AC 10µS/DIV

3 X302-2



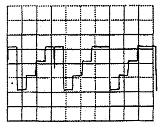
0.2V/DIV DC 10µS/DIV

7 X301-9



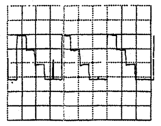
2V/DIV DC 5mS/DIV

11 X311



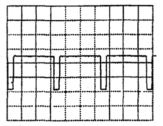
10V/DIV AC 10µS/DIV

4 X302-3



0.2V/DIV DC 10µS/DIV

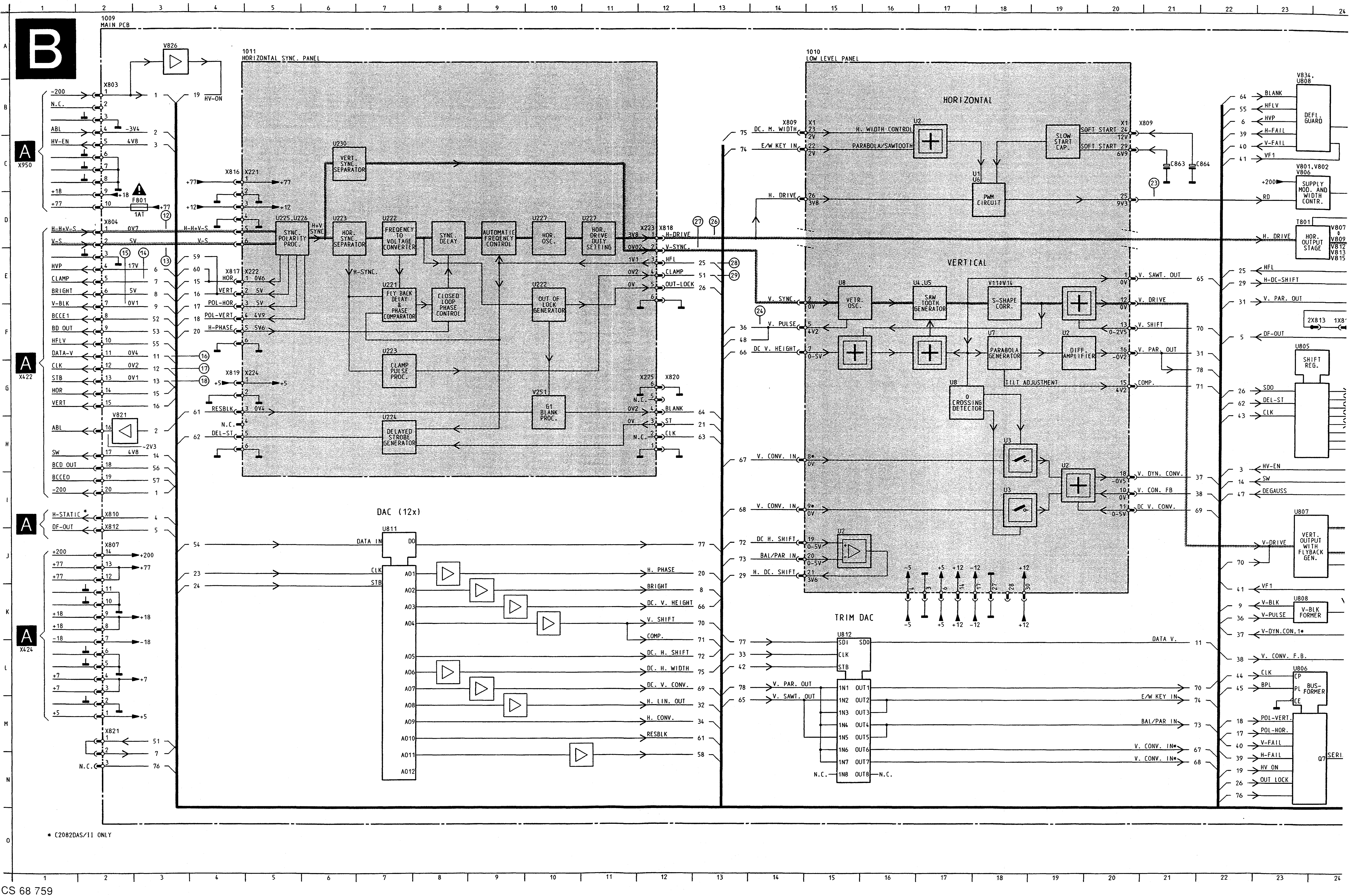
8 X301-18



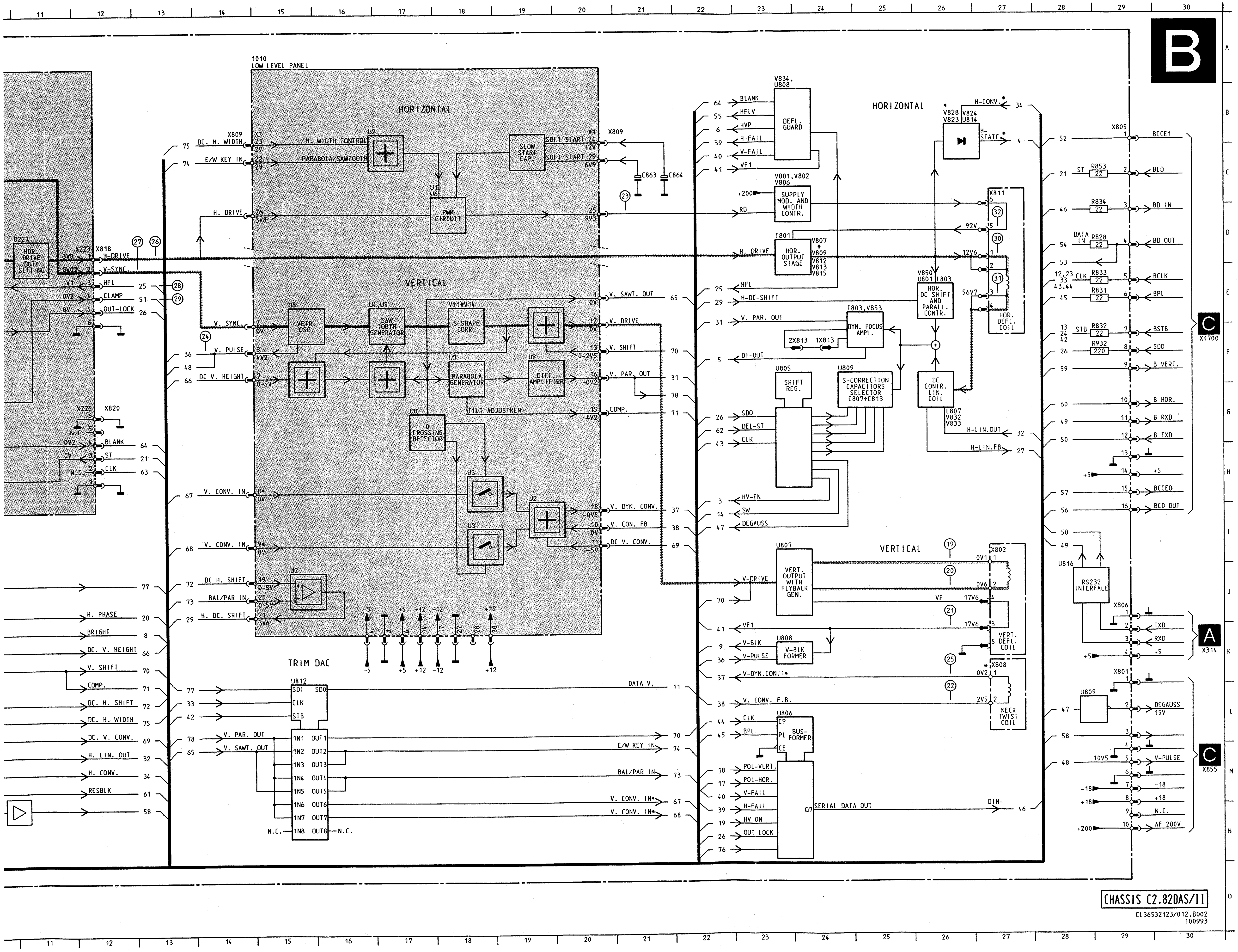
2V/DIV DC 10µS/DIV

CHASSIS C2.82DAS/II

CL36532123/011.AREF.
100993

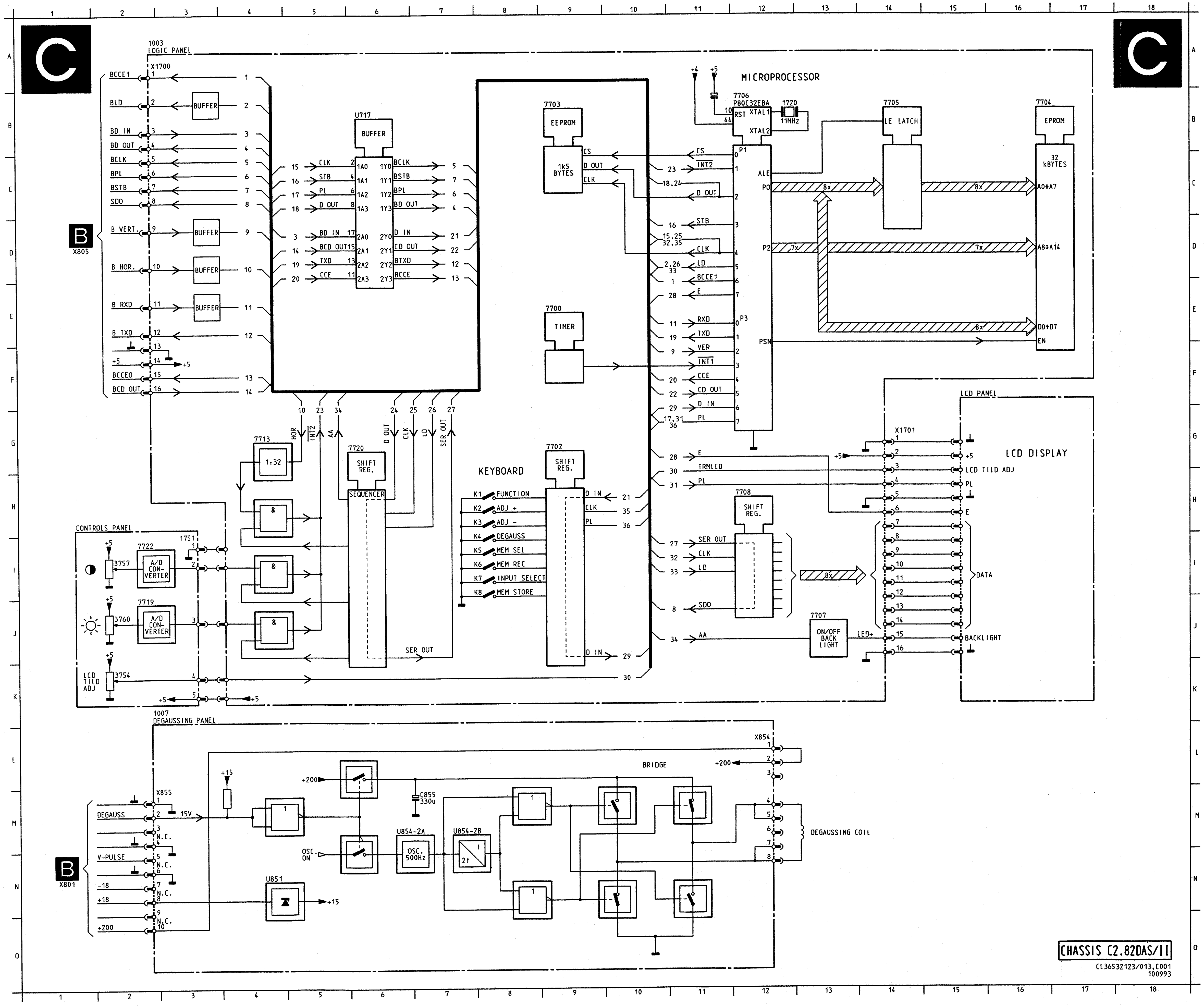

B
1009
MAIN PCB
1011
HORIZONTAL SYNC. PANEL
1010
LOW LEVEL PANEL
V826
HV-ON
X803
X804
X950
X422
X424
X810
X812
X807
X821
A
-200
N.C.
ABL
HV-EN
+18
+77
F801
1AT
H+H+V-S
V-S
HVP
CLAMP
BRIGHT
V-BLK
BCCE1
BD OUT
HFLV
DATA-V
CLK
STB
HOR
VERT
SW
BCD OUT
BCCE0
H-STATIC*
DF-OUT
+200
+7
+5
-18
V821
X816
X221
X817
X222
X819
X224
X225
X820
X223
X818
U230
VERT. SYNC. SEPARATOR
U225,U226
SYNC. POLARITY PROC.
H+V SYNC
U223
HOR. SYNC. SEPARATOR
H-SYNC.
U222
FREQUENCY TO VOLTAGE CONVERTER
SYNC. DELAY
AUTOMATIC FREQUENCY CONTROL
U227
HOR. OSC.
HOR. DRIVE DUTY SETTING
U221
FLY BACK DELAY & PHASE COMPARATOR
CLOSED LOOP PHASE CONTROL
OUT OF LOCK GENERATOR
CLAMP PULSE PROC.
V251
G1 BLANK PROC.
U224
DELAYED STROBE GENERATOR
HOR
VERT
POL-HOR
POL-VERT
H-PHASE
RESBLK
DEL-ST
H-DRIVE
V-SYNC.
HFL
CLAMP
OUT-LOCK
BLANK
ST
CLK
DAC (12x)
U811
DATA IN
DO
STB
A01 … A012
H. PHASE
BRIGHT
DC. V. HEIGHT
V. SHIFT
COMP.
DC. H. SHIFT
DC. H. WIDTH
DC. V. CONV.
H. LIN. OUT
H. CONV.
RESBLK
HORIZONTAL
X809
X1
DC. H. WIDTH
E/W KEY IN
H. WIDTH CONTROL
PARABOLA/SAWTOOTH
U2
SLOW START CAP.
SOFT START
U1 U6
PWM CIRCUIT
H. DRIVE
C863
C864
VERTICAL
U8
VETR. OSC.
U4,U5
SAW TOOTH GENERATOR
V11÷V14
S-SHAPE CORR.
U7
PARABOLA GENERATOR
DIFF. AMPLIFIER
TILT ADJUSTMENT
0 CROSSING DETECTOR
U3
V. SYNC.
V. PULSE
DC V. HEIGHT
V. CONV. IN
DC H. SHIFT
BAL/PAR IN
H. DC. SHIFT
V. SAWT. OUT
V. DRIVE
V. SHIFT
V. PAR. OUT
COMP.
V. DYN. CONV.
V. CON. FB
DC V. CONV.
TRIM DAC
U812
SDI SDO
DATA V.
IN1 … IN8
OUT1 … OUT8
N.C.
V. PAR. OUT
V. SAWT. OUT
E/W KEY IN
BAL/PAR IN
V. CONV. IN*
V834, V808
DEFL. GUARD
BLANK
HFLV
HVP
H-FAIL
V-FAIL
VF1
V801,V802 V806
SUPPLY MOD. AND WIDTH CONTR.
RD
T801
HOR. OUTPUT STAGE
V807 ÷ V809 V812 V813 V815
H. DRIVE
HFL
H-DC-SHIFT
V. PAR. OUT
2X813 1X8
DF-OUT
U805
SHIFT REG.
SDO
DEL-ST
CLK
HV-EN
SW
DEGAUSS
U807
VERT. OUTPUT WITH FLYBACK GEN.
V-DRIVE
U808
V-BLK FORMER
V-BLK
V-PULSE
V-DYN.CON.1*
V. CONV. F.B.
U806
BUS-FORMER
CP
PL
CE
BPL
POL-VERT.
POL-HOR.
V-FAIL
H-FAIL
HV ON
OUT LOCK
Q7
SERI
* C2082DAS/II ONLY

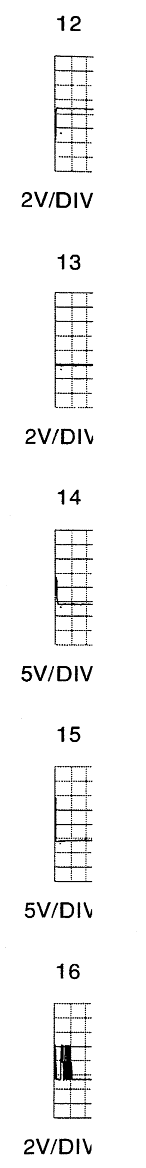
Functional block diagram


B
1010
LOW LEVEL PANEL
HORIZONTAL
VERTICAL
X809
DC. H. WIDTH
E/W KEY IN
H. DRIVE
H. WIDTH CONTROL
PARABOLA/SAWTOOTH
U2
SLOW START CAP.
SOFT START
PWM CIRCUIT
U1 U6
C863
C864
U227
HOR. DRIVE DUTY SETTING
X223
X818
H-DRIVE
V-SYNC.
HFL
CLAMP
OUT-LOCK
V. SYNC
V. PULSE
DC V. HEIGHT
VETR. OSC.
SAW TOOTH GENERATOR
S-SHAPE CORR.
PARABOLA GENERATOR
DIFF. AMPLIFIER
TILT ADJUSTMENT
0 CROSSING DETECTOR
V. SAWT. OUT
V. DRIVE
V. SHIFT
V. PAR. OUT
COMP.
V. CONV. IN
V. DYN. CONV.
V. CON. FB
DC V. CONV.
X225
X820
BLANK
ST
CLK
N.C.
DC H. SHIFT
BAL/PAR IN
H. DC. SHIFT
H. PHASE
BRIGHT
DC. V. HEIGHT
V. SHIFT
COMP.
DC. H. SHIFT
DC. H. WIDTH
DC. V. CONV.
H. LIN. OUT
H. CONV.
RESBLK
TRIM DAC
U812
SDI
SDO
CLK
STB
V. PAR. OUT
V. SAWT. OUT
DATA V.
E/W KEY IN
BAL/PAR IN
V. CONV. IN*
N.C.
V834, U808
DEFL. GUARD
BLANK
HFLV
HVP
H-FAIL
V-FAIL
VF1
V801, V802 V806
SUPPLY MOD. AND WIDTH CONTR.
RD
T801
HOR. OUTPUT STAGE
V807 ÷ V809 V812 V813 V815
H. DRIVE
HFL
H-DC-SHIFT
V850 U801 L803
HOR. DC SHIFT AND PARALL. CONTR.
T803, V853
DYN. FOCUS AMPL.
2X813
1X813
DF-OUT
U805
SHIFT REG.
U809
S-CORRECTION CAPACITORS SELECTOR C807÷C813
SDO
DEL-ST
CLK
DC CONTR. LIN. COIL
L807 V832 V833
H-LIN.OUT
H-LIN.FB
HV-EN
SW
DEGAUSS
HORIZONTAL
H-CONV.
V828 V824 V823 U814
H-STATC
X811
HOR. DEFL. COIL
92V
12V6
56V7
U807
VERT. OUTPUT WITH FLYBACK GEN.
V-DRIVE
VERTICAL
X802
VERT. DEFL. COIL
VF1
U808
V-BLK FORMER
V-BLK
V-PULSE
V-DYN.CON.1*
X808
NECK TWIST COIL
V. CONV. F.B.
U806
BUS-FORMER
CLK
BPL
CP
PL
CE
POL-VERT.
POL-HOR.
V-FAIL
H-FAIL
HV ON
OUT LOCK
SERIAL DATA OUT
DIN-
X805
BCCE1
ST R853 22
BLD
R834 22
BD IN
DATA IN R828 22
BD OUT
CLK R833 22
BCLK
R831 22
BPL
STB R832 22
BSTB
R932 220
SDO
B VERT.
B HOR.
B RXD
B TXD
+5
BCCEO
BCD OUT
C
X1700
U816
RS232 INTERFACE
X806
TXD
RXD
A
X314
X801
U809
DEGAUSS 15V
10V5
V-PULSE
-18
+18
N.C.
+200
AF 200V
C
X855
CHASSIS C2.82DAS/II
CL36532123/012.B002
100993

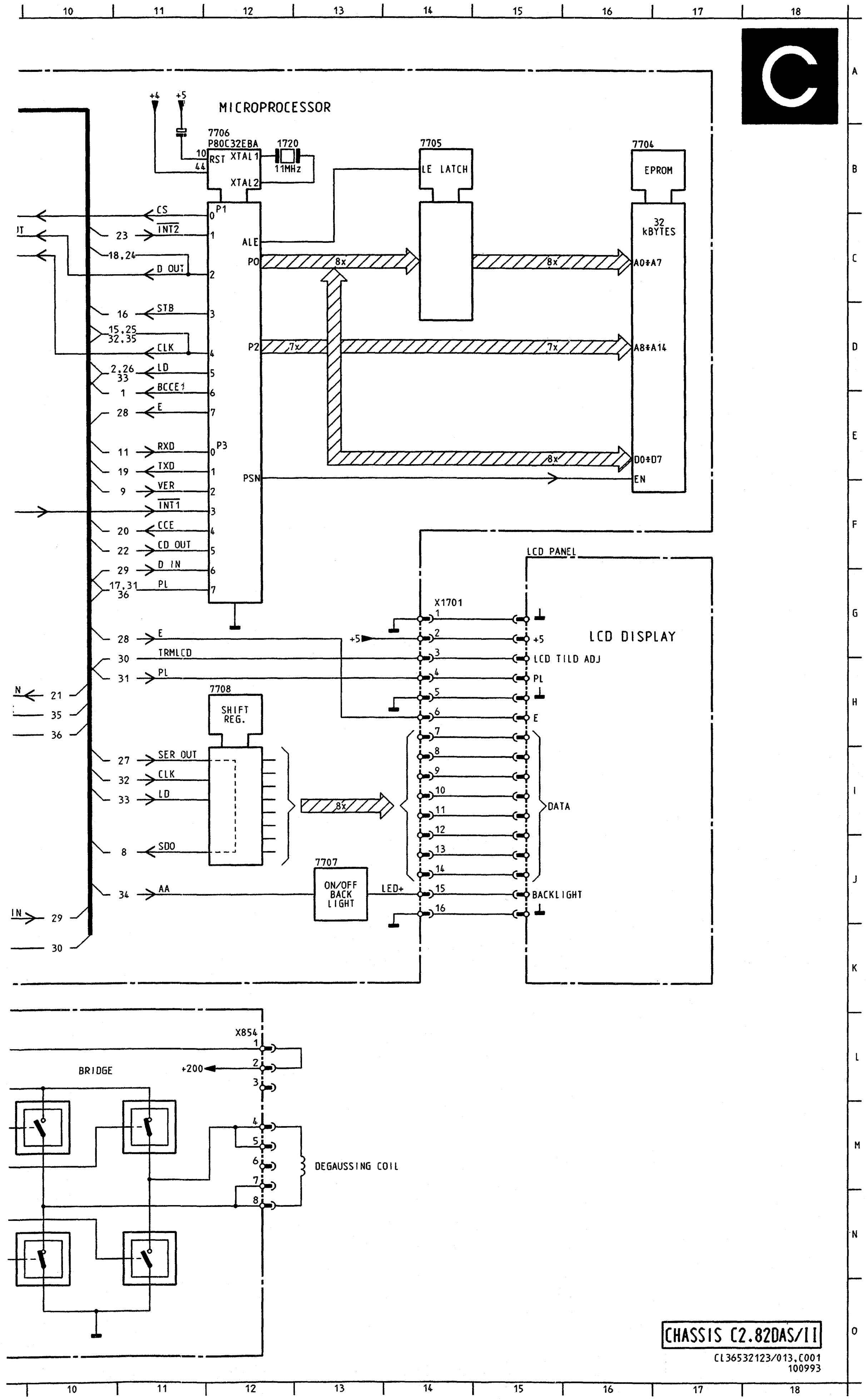
Functional block diagram

Functional block diagram


C
1003
LOGIC PANEL
X1700
B
X805
BCCE1
BLD
BD IN
BD OUT
BCLK
BPL
BSTB
SDO
B VERT.
B HOR.
B RXD
B TXD
BCCEO
BCD OUT
BUFFER
U717
CLK
STB
PL
D OUT
BD IN
BCD OUT
TXD
CCE
BCLK
BSTB
BD OUT
D IN
CD OUT
BTXD
BCCE
7703
EEPROM
1k5 BYTES
CS
DIN
7700
TIMER
7702
SHIFT REG.
KEYBOARD
K1 FUNCTION
K2 ADJ +
K3 ADJ -
K4 DEGAUSS
K5 MEM SEL
K6 MEM REC
K7 INPUT SELECT
K8 MEM STORE
MICROPROCESSOR
7706
P80C32EBA
RST
XTAL1
XTAL2
1720
11MHz
P1
P3
ALE
P0
P2
PSN
INT2
INT1
RXD
VER
E
7705
LE LATCH
7704
EPROM
32 kBYTES
A0÷A7
A8÷A14
D0÷D7
EN
8x
7x
7713
1:32
7720
SHIFT REG.
SEQUENCER
HOR
AA
SER OUT
CONTROLS PANEL
1751
7722
A/D CON- VERTER
7719
3757
3760
3754
LCD TILD ADJ
LCD PANEL
X1701
LCD DISPLAY
TRMLCD
7708
SHIFT REG.
7707
ON/OFF BACK LIGHT
LED+
DATA
BACKLIGHT
1007
DEGAUSSING PANEL
X855
X801
DEGAUSS
V-PULSE
N.C.
-18
+18
+200
15V
+15
U851
C855
330u
U854-2A
OSC. 500Hz
U854-2B
2f
OSC. ON
BRIDGE
X854
DEGAUSSING COIL
CHASSIS C2.82DAS/II
CL36532123/013.C001
100993

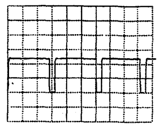


Functional block diagram


C
MICROPROCESSOR
7706
P80C32EBA
RST
XTAL1
XTAL2
1720
11MHz
ALE
P0
P1
P2
P3
PSN
7705
LE LATCH
7704
EPROM
32 kBYTES
A0÷A7
A8÷A14
D0÷D7
EN
8x
7x
CS
INT2
D OUT
STB
CLK
LD
BCCE1
E
RXD
TXD
VER
INT1
CCE
CD OUT
D IN
PL
TRMLCD
7708
SHIFT REG.
SER OUT
SDO
AA
7707
ON/OFF BACK LIGHT
LED+
X1701
LCD PANEL
LCD DISPLAY
+5
LCD TILD ADJ
DATA
BACKLIGHT
X854
BRIDGE
+200
DEGAUSSING COIL
CHASSIS C2.82DAS/II
CL36532123/013.C001
100993

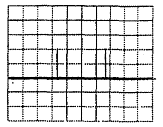
Wave forms diagram B and C

12 X804-1



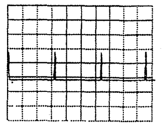
2V/DIV AC 10µS/DIV

13 X804-2



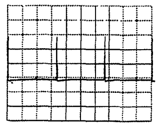
2V/DIV AC 5mS/DIV

14 X804-5



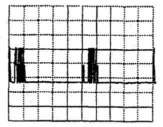
5V/DIV AC 10µS/DIV

15 X804-7



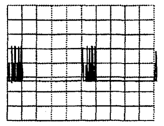
5V/DIV AC 5mS/DIV

16 X804-11



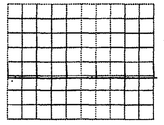
2V/DIV AC 2mS/DIV

17 X804-12



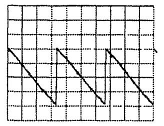
2V/DIV AC 2mS/DIV

18 X804-18



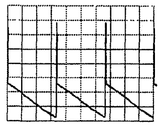
2V/DIV AC 5mS/DIV

19 X802-1



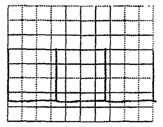
0.5V/DIV AC 5mS/DIV

20 X802-2



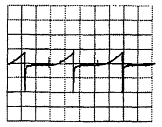
10V/DIV AC 5mS/DIV

21 X802-3



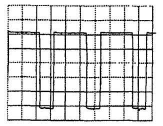
10V/DIV AC 5mS/DIV

22 X808-2



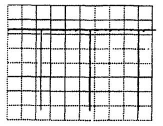
2V/DIV AC 5mS/DIV

23 X809-25



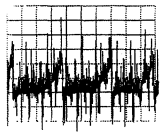
2V/DIV AC 10µS/DIV

24 X809-5



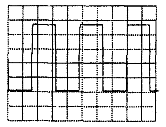
2V/DIV AC 5mS/DIV

25 X808-1



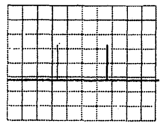
50mV/DIV AC 5mS/DIV

26 X818-1



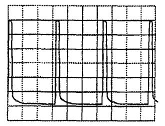
2V/DIV AC 10µS/DIV

27 X818-2



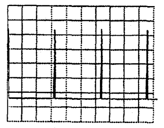
2V/DIV AC 5mS/DIV

28 X818-3



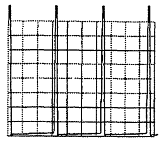
2V/DIV AC 10µS/DIV

29 X818-4



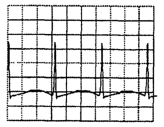
2V/DIV AC 10µS/DIV

30 X811-1



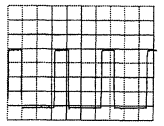
0.1kV/DIV DC 10µS/DIV

31 X811-3



50V/DIV AC 10µS/DIV

32 X811-5



50V/DIV AC 10µS/DIV

7. Electrical adjustments

ADJUSTMENTS NEEDED AFTER REPLACEMENT OF A F.R.U. (FIELD REPLACEMENT UNIT)

General
In general, after swop a board (F.R.U.), no service adjustments are necessary. Only in some worst case situations and after CRT replacement readjustments have to be executed. Due to the fact that nearly all adjustments as chromaticity, geometry and convergence are controlled via the soft-ware program of the internal microcomputer and not can be changed by the external keys, external software for readjustments is available. This test software available on floppy can be applied to the monitor via a computer with RS232 output port. Also a standart 9 pin "D-shell female" to 9 pin "D-shell male" connection cable (service code 4822 321 21988) is needed to connect the computer to the 9 pin "D-shell" socket (female) at the rear of fthe monitor on the Video Panel.
The service code number for the floppy with printed user guide is 4822 727 19992.

1. **Logic Panel**
Remark: For reason of standardisation the Logic panel listed on parts list is supplied without Eprom item 7704. In case of replacement of the Logic Panel, the original Eprom (if not defect) or a new Eprom can be mounted. For the service code number of the Eprom see also parts list.
   - In case of replacement of the logic Panel, there is the possibility to place on the new Panel the EEprom (7703), original mounted on the defective Panel. In that case there is no need to make readjustments, because this EEprom contains all the original monitor set up adjustments.
   - If there is not above mentioned possibility, it is necessary to make a new monitor set up, including geometry, chromaticity and memory channels adjustments.
   - LCD polarisation (tilt) adjustment, 3754 on control panel
Adjust 3754 for optimum character view.
Remark: 3754 is reachable via a hole in the bottom of the front mask.

2. **Power Panel**
   - No adjustments. R648 (+200 adjustment) is already factory adjusted.

3. **Video panel**
   - Basically no adjustments necessary. But check for sure the chromaticity adjustments.

4. **Video interface Panel**
   - Basically no adjustments necessary. But check for sure the chromaticity adjustments.

5. **Degaussing Panel**
   - No adjustments.

6. **Main Panel**
   - Geometry adjustments

7. **High Voltage Box**
   - No adjustments. R850 (over voltage protection setting) and R851 (EHT setting) are already factory adjusted.

8. **C.R.T.**
   - Geometry adjustments
   - Focus adjustments
   - Chromaticity adjustments
   - Horizontal and Vertical convergence adjustments

8. Repair tips

TROUBLE SHOOTING VIA DISPLAY MESSAGES

PROBLEM
LCD does not turn ON when you turn ON the monitor.
Solution:
- Power cord is not connected to the power source.
- No power in that wall outlet.
- Monitor or fuse are faulty.

PROBLEM
One or two colors are missing.
Solution:
Video signal cables (red, blue or green) have not been connected properly.

PROBLEM
Colored spots appear on the monitor screen (bad colore purity).
Solution:
- Press the degauss button.
- Electromagnetic interference present.
- Move any electromechanical device away from the monitor.

LCD MESSAGE INDICATES - PRESET OFF
It means that the current timing has not been previously stored. The monitor is nonetheless working properly.
Solution:
You may store your timing as a new preset mode on this channel or continue working.

LCD MESSAGE INDICATES - H SYNC OFF or V SYNC OFF or H & V SYNCS OFF
It means that the video cable connections are not properly made.
Solution:
See sheet "connection facilities"
If the problem is not solved please check your graphic card.
Please verify the "input selection".

LCD MESSAGE INDICATES - V OUT OF RANGE
It means that the monitor does not recognize the vertical frequency of your graphic board.
Solution:
Please verify that your graphic card operates within the 50 to 160 Hz range of your monitor.

LCD MESSAGE INDICATES - H OUT OF RANGE
It means that the monitor does not recognize the horizontal frequency of your graphic board.
Solution:
Please verify that your graphic card operates within the 30 to 82 kHz range of your monitor.

LCD MESSAGE INDICATES - PLL UNLOCKED
It means that the logic board inside the monitor is defective.

LCD MESSAGE DISPLAYS - V DEF. FAILURE
It means that there is a local failure in the vertical deflection.

LCD MESSAGE DISPLAYS - H DEF. FAILURE
It means that there is a local failure in the horizontal deflection.

LCD MESSAGE DISPLAYS - HI VOL. FAILURE
It means that there is a local failure in the high voltage generator.

LCD MESSAGE DISPLAYS - GEN. FAILURE
It means that 2 or more failures have been detected at the same time.

TROUBLE SHOOTING BACKGROUNDS

When you are facing a problem, first of all try to understand which kind of problem it is and where it is coming from.
If you can see a picture on the screen, usually you should be able to understand the problem looking at the screen itself and take the appropriate corrective actions. When you find a problem looking at the screen, before changing any PCB, check if it is possible to solve the problem by readjusting the related controls. Many times, when you see the picture, the problem is not real failure but only a misadjustment since in most cases of failure (or uncorrect operation) a protection circuit will blank the screen.
The monitor has a built in self diagnostic test performed by the Logic board which is able to check if some important circuits are properly working, such as deflections, EHT, and in case of failure an error message is displayed on the front panel LCD.
Additional diag. indicators are the LED placed on the Power supply.
By following the herebelow procedure, you should be able to find the defective board to be replaced.

A) AFTER TURNING THE MONITOR ON, THE CRT IS BLANKED BUT THE LCD IS LIGHTED.

- This means that the mains power is connected and the separated +5V switch mode power supply is working.
At this moment, you should read on the LCD one of the following error messages:

1) H/V or HOR. or VERT. SYNC. OFF
- This means that the displayed type of sync. is missing; check the connections between monitor & video generator and check if the selected video input (BNC's or D-SUB) is the right one.
If everything seems to be OK, check the internal cabling between Video, Video Interface, Main & Logic board. If the cabling is OK, the Video board is suspected to be failed.

2) H.DEF. FAILURE
- This means that the horizontal deflection is missing, nevertheless the vertical deflection is working and so the power supply output short circuit protection hasn't been activated.
In this case you should check the deflection yoke connection (X811) and if all the supply voltages, especially the +200V, are present on the Main board (X807).
If all seems to be OK, the Main board is suspected.

3) V.DEF. FAILURE
- Same meaning and procedure as point 2).

4) HI.VOL. FAILURE
- This means that the High Voltage that supplies the CRT is missing, nevertheless both horizontal & vertical deflections are properly working.
In this case, first of all try to recover the problem by switching the monitor off and on again because the overcurrent protection of the High Voltage generator could be activated by a flashover discharge or really by a too high beam current (for example if the video input termination switch is in the wrong position);
if this does not solve the problem, check the connection between the High Voltage generator box and the fuse F801 placed on the Main board. If all seems to be OK, the High Voltage generator is suspected.

5) GEN.(general) FAILURE
- This means that at least two of the above mentioned failures have been detected at the same time.
It can happen when a local failure cause a short circuit on one or more supply voltages, activating in this way the protection of the power supply so that also the non-failed circuits cannot work or when the power supply itself is bad, or when a supply voltage is missing on the Main board. In this case, you should proceed in this way:

a) Check the LED placed on the power supply.
V621 must be on because if you can see the LCD message the separated circuit which supplies the +5V must be working.
If also the other 3 LEDs are on, means that also the main power supply is working. In this case check if any supply voltage is missing on the Main board (due to the cabling); if not, the Main board is suspected.

if the other 3 LEDs are off or blinking, disconnect the Power supply output connector X606 and check the LED again: if they are still off, the Power supply is suspected.
If they are on, means that with X606 connected the SMPS overcurrent protection is activated because there is a short circuit on one of the supply rails. In this case, plug in again X606 and disconnect one at time the supply connectors of all the other boards, following this order : Degauss board, EHT generator, Main board, Video board, Video Interface board. When the Power supply starts working, the PCB which has been disconnected is bad.

B) AFTER TURNING THE MONITOR ON, THE CRT IS BLANKED AND THE LCD IS OFF

In this case, check the LEDs on the Power supply.

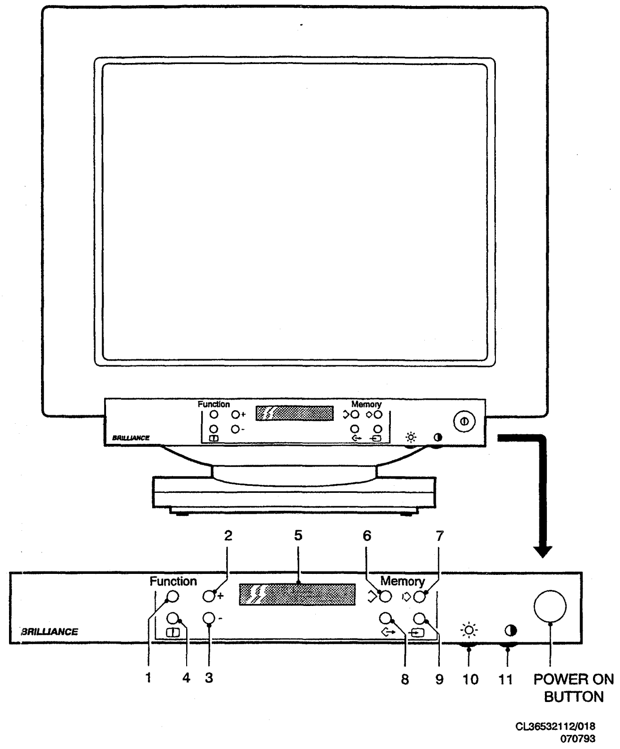
1) All the LEDs are off:
check all the connections between the EMI filterbox, mains switch, main fuse (check the fuse itself) and the Power supply board: if all looks correct, replace the Power supply.

2) Only the LED V621 (+5V indicator) is off:
unplug the power supply connector X606 an check again the LED status

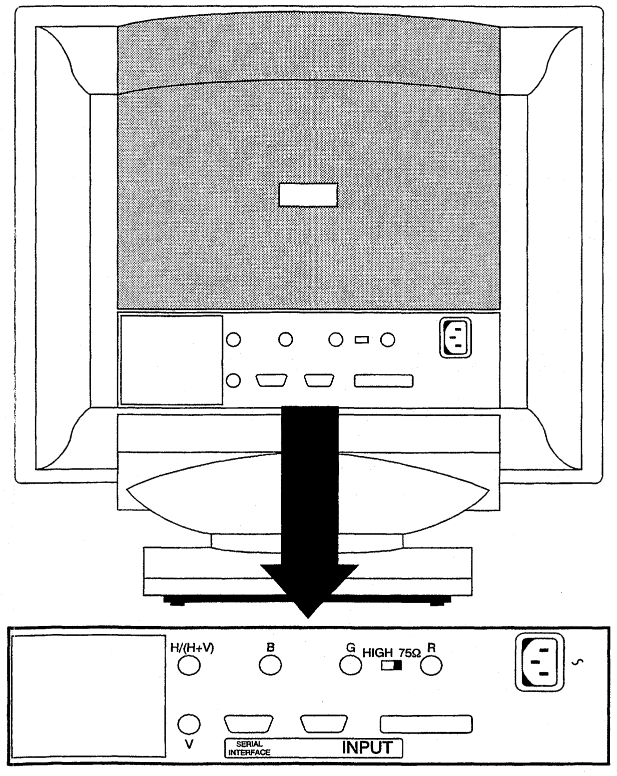
- if it is still off, replace the Power supply
- if it is on, means that there is a short circuit on the +5V line; in this case apply the procedure described at paragraph "GEN FAILURE" indication in order to find the defective board.

3) All the LEDs are on:
check if the +5V supply voltage is present on the Main board (X807) and if the cabling between the Main board itself and the Logic board is correct; if yes, the Logic board and/or the LCD assembly is suspected.

9. Directions for use



CL36532112/018
070793



CL36532112/014
060793

Front controls

- Power button

1 FUNCTION
By pressing repeatedly this button the following parameters can be selected:
- Horizontal phase
- Width
- Vertical shift
- Height
- Vertical convergence*
- Horizontal convergence*
- Color temperature
- Side pincushion
- Pincushion Balance
- Trapezoidal
- Trapezoidal Balance

2 + ADJ
This button allows you to regulate (increase) a chosen parameter. On the LCD an adjustment scale of 0 to 9 will be displayed.

3 - ADJ
This button allows you to regulate (decrease) a chosen parameter.
On the LCD an adjustment scale of 0 to 9 will be displayed.

4 ◫ **Manual Degauss button.**

5 LCD display

6 › **MEMORY SELECT**
This button is used to memorize or recall a specified timing.

7 ▷ **MEMORY STORE.**
This button is used to memorize a channel.

8 ⇠ **MEMORY RECALL**
The Memory Recall button is used to reset the monitor to the default settings of a specific channel.

9 ⇥ **INPUT SELECT**
This button allows you to select the "video input".
The options are "BNC" or "D-SUB".

10 - ☼ + : Brightness control

11 - ◑ + : Contrast control

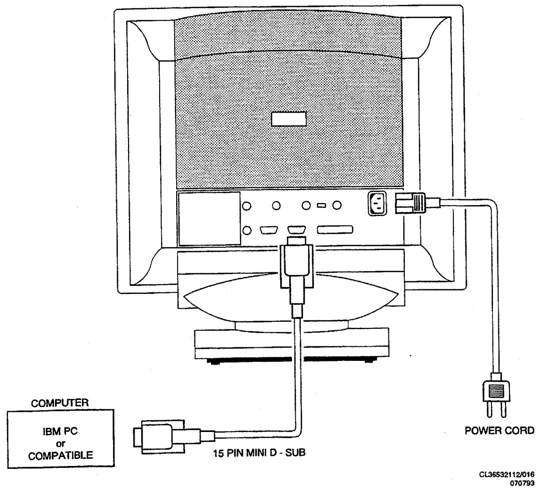
Rear view

- 5 BNC input connectors
  * R : red analog video
  * G : green analog video + combined sync signal.
  * B : blue analog video
  * H/H+V : horizontal or composite sync signal.
  * V : vertical sync signal.
- Mini D-SUB 15 pin connector (Video input)
- Mini D-SUB 9 pin connector (RS232 interface)
- high/75Ω impedance switch
- Power cord connector

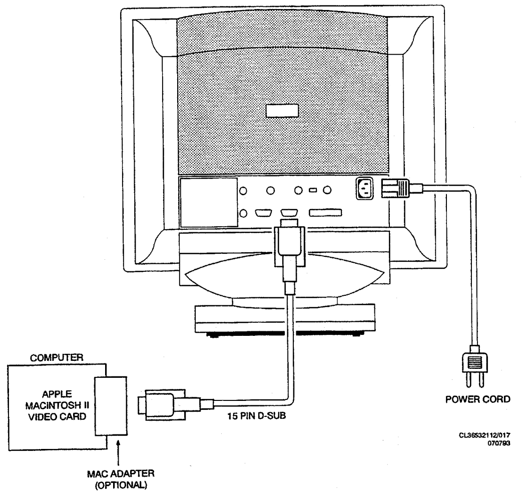
* C2082DAS/II and 2020DC only.

Directions for use

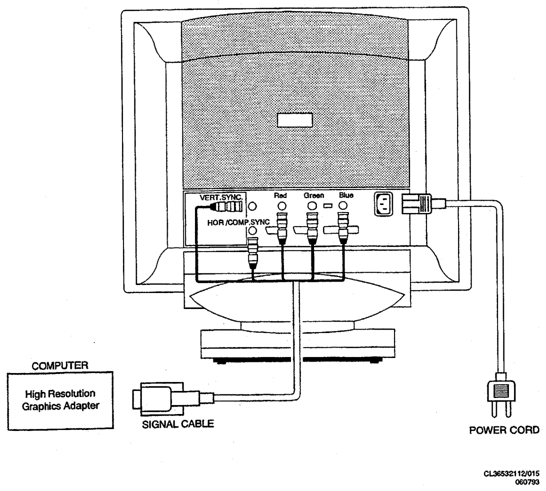
Connecting the monitor to an IBM PC or compatible with a normal VGA graphics card.


COMPUTER
IBM PC or COMPATIBLE
15 PIN MINI D - SUB
POWER CORD
CL36532112/016
070793

Connecting the monitor to an Apple computer with a MACII video card.

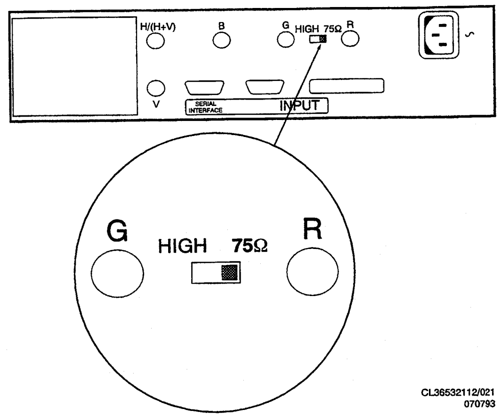

COMPUTER
APPLE MACINTOSH II VIDEO CARD
15 PIN D-SUB
POWER CORD
MAC ADAPTER (OPTIONAL)
CL36532112/017
070793

Connecting the monitor to a computer with a high resolution graphics card.

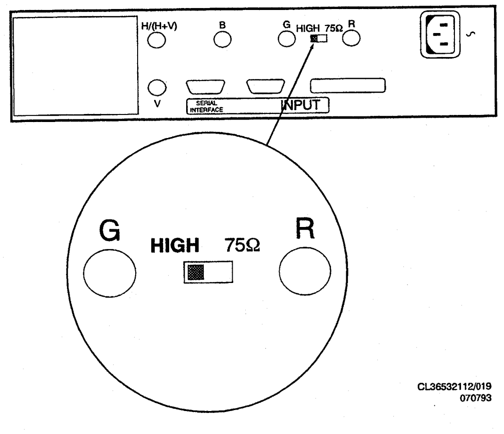

VERT.SYNC.
HOR /COMP.SYNC
Red
Green
Blue
COMPUTER
High Resolution Graphics Adapter
SIGNAL CABLE
POWER CORD
CL36532112/015
060793

The HIGH/75Ω switch

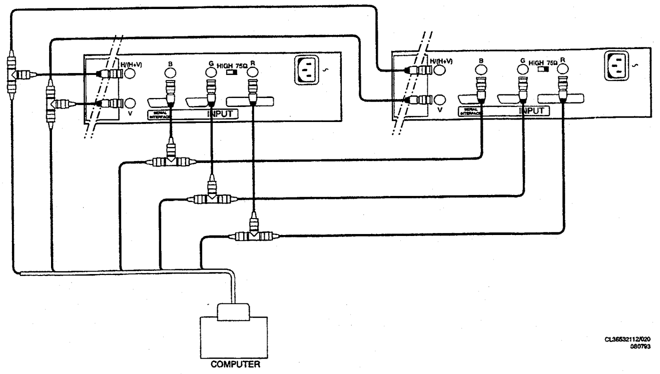
The switch is used only when you wish to connect more than one monitor to your graphics card.
If you are connecting only one monitor to your graphics card, the switch has to be positioned to "75Ω".


H/(H+V)
B
G
HIGH 75Ω
R
V
SERIAL INTERFACE
INPUT
G
HIGH
75Ω
R
CL36532112/021
070793

If you are planning to connect more than one monitor to your graphics card, the switch has to be positioned to "high".


H/(H+V)
B
G
HIGH 75Ω
R
V
SERIAL INTERFACE
INPUT
G
HIGH
75Ω
R
CL36532112/019
070793

If you are using a "T-BNC" connector to connect 2 monitors together, the last monitopr must have the swith in "75Ω" position.Direction for use


INPUT
COMPUTER

How to use the front controls.

Note: the LCD light will switch itself off automatically after approximately 30 seconds.
By pressing the memory select or function button the LCD light will be switched on.

1. **Switch on the monitor**
Important: At power on, the LCD will display for 1 to 2 seconds the message "WAIT.... START UP" and then for 1 to 2 seconds the message "F/W Release ..(number)" . The message "TEST IN PROGRESS" will also be displayed for 2 to 3 seconds to allow the monitor complete all internal checks. If an error is detected an appropriate message will be displayed. If not, the LCD will display "Mode not Found" , which means that the timing displayed is not known to the monitor (i.e. not in the memory). At this stage it is needed to memorize the used timing on a free "preset mode" . If the timing used by the computer is already known to the monitor, the LCD will automatically display the "preset mode" that timing is memorized on.

If proper connection is not established within 10 seconds, the LCD will display a "failure message".
If there is a problem at this stage please consult the troubleshooting section.

2. **FUNCTION button (1)**
By pressing repeatedly this button it is possible to select the next parameters;

- horizontal phase
- width
- vertical shift
- height
- vertical convergence *
- horizontal convergence *
- colour temperature
- side pincushion
- pincushion balance
- trapezoidal
- trapezoidal balance

The above mentioned sequence cannot be changed , but it is possible to go backwards by pressing repeadly the ▷ "MEM. STORE" button.
The horizontal phase, the width, the vertical shift and the height can be set for each specific channel. All other functions are related to the whole monitor.

2.1 **Horizontal phase**
A scale of 0 to 9 is available by pressing the "ADJUST buttons". By pressing "-", the hole picture will move horizontally to the left. By pressing "+", the whole picture will move to the right.

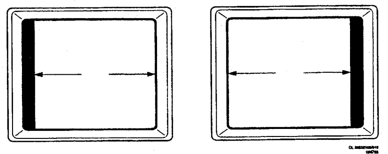


Fig. 2.1

2.2 **Width**
A scale of 0 to 9 is available by pressing the "ADJUST buttons". By pressing "-", the horizontal width of the picture will be reduced. By pressing "+", the horizontal width of the picture will be enlarged.

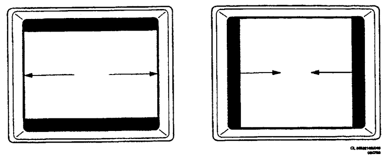


Fig. 2.2

2.3 **Vertical shift**
A scale of 0 to 9 is available by pressing the "ADJUST buttons". By pressing "-", the picture will move downwards. By pressing "+", the picture will move upwards.

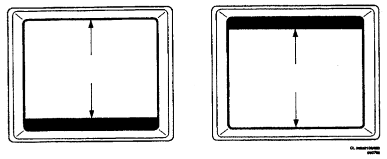


Fig. 2.3

2.4 **Height**
A scale of 0 to 9 is available by pressing the "ADJUST buttons". By pressing "-", the vertical height of the picture will be reduced. By pressing "+", the vertical height of the picture will be enlarged.

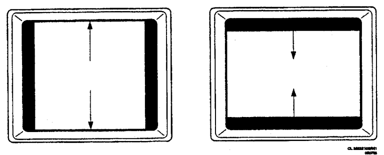


Fig. 2.4

At this stage, if needed to memorize the image settings in a specified "video mode", go to point 5 and 6.

2.5 **Vertical convergence***
A scale of 0 to 9 is available by pressing the "ADJUST buttons". By pressing "-" or "+" the convergence of the horizontal lines can be adjusted. With these commands it is possible to move the RED and BLUE beams while the GREEN beam is keeping constant.

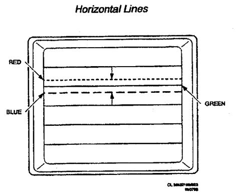

Horizontal Lines
RED
BLUE
GREEN

Fig. 2.5

2.6 **Horizontal convergence***
A scale of 0 to 9 is available by pressing the "ADJUST buttons". By pressing "-" or "+" the convergence of the vertical lines can be adjusted. With these commands it is possible to move the RED and BLUE beams while the GREEN beam is keeping constant.

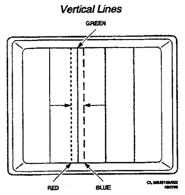

Vertical Lines
GREEN
RED
BLUE

Fig. 2.6

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* C2082DAS/II and 2020DC only

2.7 Colour temperature

There are 3 possibilities to change the colour temperature by pressing "ADJUST buttons" The colour temperature 1 is the factory setting at 9300 K° and colour temperature 2 is preset at 6500 K°. The colour temperature 3 can be set by the user;

a. pressing the "ADJUST buttons" until the LCD displays "Color Temp. 3" and then by pressing the "FUNCTION" button.
b. "Red Adjust" will be displayed in the LCD;
   A scale of 0 to 9 is available by pressing the "ADJUST buttons" . By using this command it is possible to increase the amount of red displayed in the screen.
c. press "FUNCTION" again and "Green Adjust" will be displayed in the LCD;
   A scale of 0 to 9 is available by pressing the "ADJUST buttons" . By using this command it is possible to increase the amount of green displayed in the screen.
d. press "FUNCTION" again and "Blue Adjust" will be displayed in the LCD;
   A scale of 0 to 9 is available by pressing the "ADJUST buttons". By using this command it is possible to increase the amount of blue displayed in the screen.

If there is a wish to re-adjust any of the above colours just press the "FUNCTION" button. Once you are finishhed just press (memory select) button to exit these commands.
Important: After a color adjustment, the new control setting will be automatically stored by the monitor within 30 seconds, unless the monitor is switched off, the video mode is changed or the video input selector is changed.
Note: the use of primary colour blue on a dark background is not recommended (bad legibility may cause eyestrain due to low character contrast).

2.8 Side pincushion

A scale of 0 to 9 is available by pressing the "ADJUST buttons. By pressing "-" or "+" it is possible to adjust the pincushion until the right and left side of the picture become linear or straight.

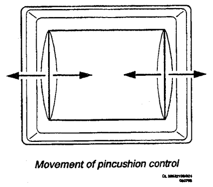


Fig. 2.8

2.9 Pincushion balance

This control is to be used only when one side of the monitor needs to be adjusted.
A scale of 0 to 9 is available by pressing the "ADJUST buttons". By pressing "-" or "+" it is possible to adjust the picture for a symmetrical distortion. After that it is possible to re-adjust via the pincushion control, see point 2.8 for a linear or straight picture.

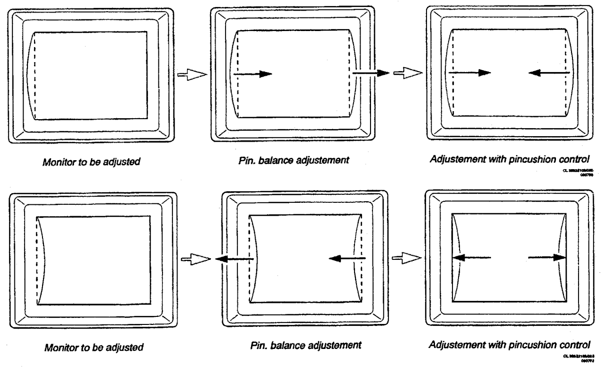


Fig. 2.9

2.10 Trapezoidal

A scale of 0 to 9 is available by pressing the "ADJUST buttons". By pressing "-" or "+" it is possible to adjust the left and right lines as indicated in fig. 2.10

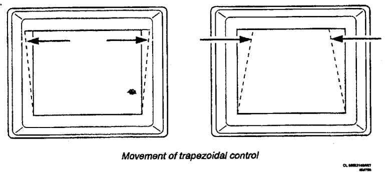


Fig. 2.10

2.11 Trapezoidal balance

A scale of 0 to 9 is available by pressing the "ADJUST buttons". By pressing "-" or "+" it is possible to adjust the left and right lines as indicated in fig. 2.11

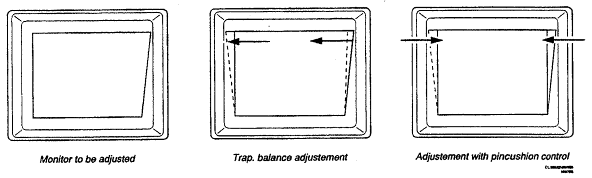

Monitor to be adjusted
Trap. balance adjustement
Adjustement with pincushion control

Fig. 2.11

Important: after a geometrical adjustment, the new control setting will be automatically stored by the monitor within 30 seconds, unless the monitor is switched off, the video mode is changed or the video input selector is changed.

2.12. How to recall the original geometry setting

If needed to restore the monitor to its original geometrical specifications, just press the "MEM RCL" button on the front panel. A message on the lcd panel will request a confirmation. Press once again the "MEM RCL." button to complete the operation.

3. **+ ADJUST (2)**
This button allows the user to regulate (increase)a chosen parameter. On the LCD panel an adjustment scale of 0 to 9 will be displayed.

4. **- ADJUST (3)**
This button allows the user to regulate (decrease)a chosen parameter. On the LCD panel an adjustment scale of 0 to 9 will be displayed.

5. **〉 MEMORY SELECT (6)**
This button is used to memorize or to recall a specified timing. By pressing "MEM.SEL" , the monitor will display the video mode that is presently on. If using a standard resolution which is already present in the monitor, the channel will be pinpointed by the <--- sign (for the complete list see the factory preset video timing table). If on the contrary a resolution is not present, the first available channel will be displayed (from 15 to 21 only). By pressing the "ADJUST buttons" it is possible to change the video mode number for storing the required timing. Please note that is only possible to choice a specific video mode number where to memorize the required timing only with "non factory preset timing" . To memorize the changes on a specific video mode just press the "MEM.STORE" button.

6. **|〉 MEM.STORE button (7)**
This button is used to memorize a channel. It must be used in conjunction with "MEM.SEL." to work. Please note that the monitor will not store 2 identical timing.

7. **↔ MEMORY RECALL (8)**
The memory recall button is used to re-set the monitor to the default settings of a specific channel. First select through the "ADJUST buttons" the channel that needs to be restored (valid channels are from 1 to 14), then press "MEM.RCL." button. A message on the LCD display will request a command confirmation, press again "MEM.RCL." to complete the operation.

8. **LCD display (5)**
The Liquid Crystal Display where all the information regarding the front panel control is displayed.
there are 3 different types of messages that could be displayed on the LCD;
a. normal operational messages like the timing displayed etc.
b. messages related to possible changes in the monitor specifications (adjustment status).
c. messages related to monitor malfunction or diagnostics.

9. **- ☼ + BRIGHTNESS (10)**
This button is used to adjust the brightness.

10. **- ◐ + CONTRAST (11)**
This button is used to adjust the contrast.

11. **⇥ INPUT SELECT (9)**
With this button it is possible to select the type of "video input". The options are BNC or D-SUB. If the selected video input is not connected an error message will flash on the LCD. After 20 seconds the selection is memorized.

12. **◫ DEGAUSS (4)**
This is the degaussing button. It is used in case distortions or colour impurity caused by magnetic fields are present on the screen.

Remarks:
1. If the monitor remains inactive for more than 3 seconds the original video mode will appear on the LCD display.

2. LANGUAGE SELECTION
YOU MAY SELECT THE LANGUAGE ON THE LCD DISPLAY BY FOLLOWING THIS PROCEDURE:
(available languages: English, French, Italian, German, Spanish)

- Turn on your monitor.
- When the message "test in progress" appears on the LCD display, press any key on the front control panel.
- The LCD will display the selected language: ENGLISH.
- Press "Adjust +" to select your language.
- Press MEM. STORE to confirm your selection.
- Press the FUNCT. KEY to continue.

From now on when you switch on your monitor it will automatically display the chosen language.

3. KEYBOARD LOCK FEATURE:
Your monitor is equipped with a "keyboard lock" feature which allows the user to temporarelly disable the front control panel.

TO "LOCK" THE FRONT CONTROL PANEL YOU MUST PRESS THE FOLLOWING KEY SEQUENCE:

+ (ADJUST), 〉 (MEMORY SELECT), ◫ (DEGAUSS), ⇥ (INPUT SELECT)

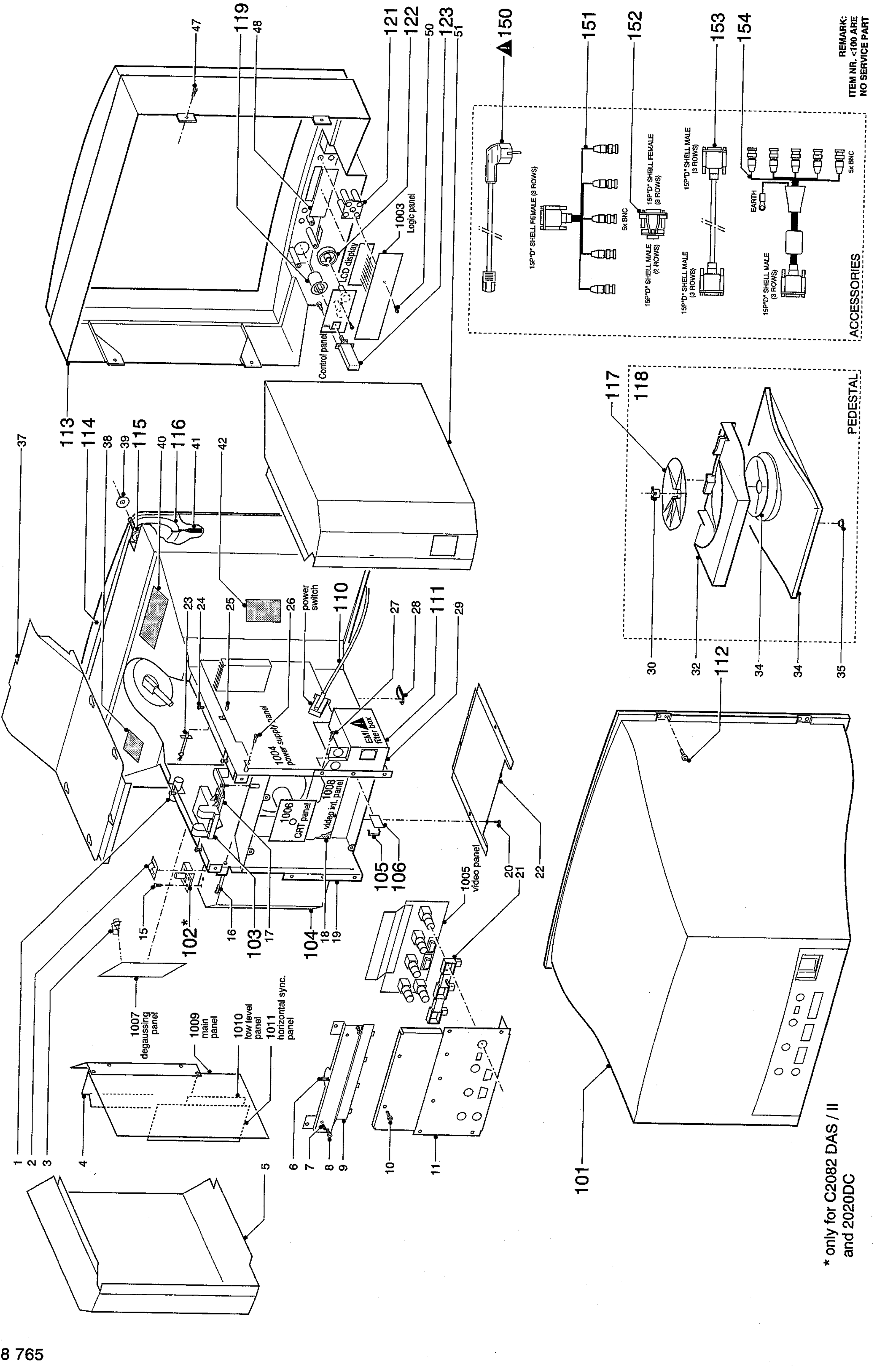
Please note that you must press each key within 2 seconds for the keyboard lock to function. The message "keyboard locked" will appear on the LCD display if the sequence was successful. If no message is displayed on the LCD please repeat the operation.

TO "UNLOCK" THE FRONT CONTROL PANEL REPEAT THE SEQUENCE:

+ (ADJUST), 〉 (MEMORY SELECT), ◫ (DEGAUSS), ⇥ (INPUT SELECT)

Please note that you must press each key within 2 seconds for the keyboard unlock this function. The message "unlocked" will appear on the LCD display if the sequence was successful. If no message is displayed on the LCD please repeat the operation.

10. Exploded view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122
123
150
151
152
153
154
1003 Logic panel
LCD display
Control panel
1004 power supply panel
power switch
EMI filter box
1006 CRT panel
1008 video int. panel
1005 video panel
1007 degaussing panel
1009 main panel
1010 low level panel
1011 horizontal sync. panel
15P"D" SHELL FEMALE (3 ROWS)
5x BNC
15P"D" SHELL FEMALE (3 ROWS)
15P"D" SHELL MALE (2 ROWS)
15P"D" SHELL MALE (3 ROWS)
15P"D" SHELL MALE (3 ROWS)
EARTH
15P"D" SHELL MALE (3 ROWS)
5x BNC
ACCESSORIES
PEDESTAL

REMARK:
ITEM NR. <100 ARE
NO SERVICE PART

C2.82 DAS / II
CL 36532112/011
050793

* only for C2082 DAS / II and 2020DC

Notes

C2082DAS/II
2020DC

REPAIRABLE PRINTED WIRING BOARDS

(procedure via Philips Consumer Service)

1004	4822 212 30959	Power PWB
1005	4822 212 30932	Video PWB
1007	4822 212 30892	Degaussing PWB
1008	4822 212 30933	Video Int. PWB
1009	4822 212 30926	Main PWB
1010	4822 212 30927	Low Level PWB
1011	4822 212 30929	Hor.Sync. PWB

OTHER PRINTED WIRING BOARDS

1003	4822 212 30931	Logic PWB (without EPROM ITEM 7704)
1006	4822 212 30173	CRT PWB
	4822 212 30961	Controls PWB

PARTS NOT ON PWB's

(See exploded view)

101	4822 438 10437	Rear cover with textplate
102 ▲	4822 101 11203	Static conv. potmeter
103 ▲	4822 212 30936	Focus unit
104 ▲	4822 212 30935	High tension box
105	4822 492 71122	Spring clip
106	4822 466 93141	Thermal insulator
110	4822 403 70975	ON/OFF extension
111 ▲	4822 265 31129	Mains socket assy
112	4822 502 21204	Screw M5X18
113	4822 451 70262	Mask + logo
114 ▲	4822 131 20479	Picture tube
115	4822 505 11137	Nut M6
116 ▲	4822 157 63964	Degaussing coil
117	4822 466 93301	Friction disc
118	4822 462 10562	Pedestal assy
119	4822 410 62817	ON/OFF Push button
121	4822 410 62816	Key
122	4822 410 62815	Knob
123	4822 272 20078	ON/OFF Switch (Mechanical)

KEY COMPONENTS ON POWER PWB

F601 ▲	4822 253 30322	Fuse T0.2A 250V
F602 ▲	4822 070 34002	Fuse T4A 250V
S601 ▲	4822 272 20079	Mains switch
T601 ▲	4822 146 31278	Power tr. +200V
T602 ▲	4822 142 40335	Power tr. +5V

KEY COMPONENTS ON MAIN PWB

F801 ▲	4822 071 51002	Fuse 1A 125V

KEY COMPONENTS ON LOGIC PWB

7704	4822 900 10453	EPROM
	4822 130 91123	LCD Display

ACCESSORIES

150 ▲	4822 321 10676	Power cord EUR
150 ▲	4822 321 10978	Power cord USA
151	4822 321 61241	I/F Cable (short) 5xBNC MALE-15P "D" Shell Female
152	4822 263 50197	Adaptor 15p "D" Shell Female 3 Rows -15P "D" Shell Male 2 Rows
153	4822 321 61529	I/F Cable 15p "D" Shell Male-15P "D" Shell Male
154	4822 321 61411	I/F Cable 5xBNC Male-15P "D" Shell Male

C2182DAS/II

REPAIRABLE PRINTED WIRING BOARDS

(procedure via Philips Consumer Service)

1004	4822 212 30959	Power PWB
1005	4822 212 30932	Video PWB
1007	4822 212 30892	Degaussing PWB
1008	4822 212 30968	Video Int. PWB
1009	4822 212 30941	Main PWB
1010	4822 212 30927	Low Level PWB
1011	4822 212 30929	Hor.Sync. PWB

OTHER PRINTED WIRING BOARDS

1003	4822 212 30931	Logic PWB (without EPROM ITEM 7704)
1006	4822 212 30208	CRT PWB
	4822 212 30961	Controls PWB

PARTS NOT ON PWB's

(See exploded view)

101	4822 438 10437	Rear cover with textplate
103 ▲	4822 101 90246	Focus unit
104 ▲	4822 212 30935	High tension box
105	4822 492 71122	Spring clip
106	4822 466 93141	Thermal insulator
110	4822 403 70975	ON/OFF extension
111 ▲	4822 265 31129	Mains socket assy
112	4822 502 21204	Screw M5X18
113	4822 451 70263	Mask + logo
114 ▲	4822 131 20578	Picture tube
115	4822 505 11137	Nut M6
116 ▲	4822 157 70018	Degaussing coil
117	4822 466 93301	Friction disc
118	4822 462 10562	Pedestal assy
119	4822 410 62818	ON/OFF Push button
121	4822 410 62816	Key
122	4822 410 62815	Knob
123	4822 272 20078	ON/OFF Switch (Mechanical)

KEY COMPONENTS ON POWER PWB

F601 ▲	4822 253 30322	Fuse T0.2A 250V
F602 ▲	4822 070 34002	Fuse T4A 250V
S601 ▲	4822 272 20079	Mains switch
T601 ▲	4822 146 31278	Power tr. +200V
T602 ▲	4822 142 40335	Power tr. +5V

KEY COMPONENTS ON MAIN PWB

F801 ▲	4822 071 51002	Fuse 1A 125V

KEY COMPONENTS ON LOGIC PWB

7704	4822 900 10454	EPROM
	4822 130 91123	LCD Display

ACCESSORIES

150 ▲	4822 321 10676	Power cord EUR
150 ▲	4822 321 10978	Power cord USA
151	4822 321 61241	I/F Cable (short) 5xBNC MALE-15P "D" Shell Female
152	4822 263 50197	Adaptor 15p "D" Shell Female 3 Rows -15P "D" Shell Male 2 Rows
153	4822 321 61529	I/F Cable 15p "D" Shell Male-15P "D" Shell Male
154	4822 321 61411	I/F Cable 5xBNC Male-15P "D" Shell Male

Autoscan Colour monitor
DAS, 21A90, 21B90, CM0900

Service
Service
Service

95.03

Service Information

Herewith publication 4822 727 20654 can be deleted.

This service information covers all the following type numbers:

- C2082DAS/..
- 2082DC/..
- C2182DAS/..
- 2182DC/..
- 21B30300/01S (C2190DAS/PC)
- 21B30300/17S (2190DC/PC)
- 21B30301/01S (C2190DAS/TT)
- 21BA9029/.. (CM0900PH /HI)
- C2082DAS/..
- 21A11200/01S (C2190DAS/HG)
- 21A11200/17S (2190DC/HG)
- 21A11201/01S (C2190DAS/HS)

Created by Service Dept. Fimi S.r.l - Published by Consumer Electronics ©Copyright reserved Subject to modification November 1995 GB 4822 727 20657

EPROM SURVEY

1 / 2

Nr.	SERVICE CODE	FACTORY CODE	VERSION OR RANGE		TYPE C2082DAS/								C2182DAS/												21B30300	21B30300	21A11200	21A11201	21A11202	21A11204	21BA9029	REASONS OF CHANGES / NOTES
	4822 900	3119 209	VER	CHKS	-	A	2A	BA	II	TC	01		-	A	2A	BA	II	HH	PH	HA	HP	HT	PA	HG	AN 30 - 59	AN 00 > 29	01S - 17S	01S	01S-17S-75S	01S	00S	
1	10447	11463	2.0B		■																											24 Mhz version
2	10446	11469	3.0B			■	■																									24 Mhz version
3	10451	12184	3.0B	2C6C	■	■	■	■																								
4	10453	12681	1.00F	F6A6					▨																							
			1.0G	6E48					▨																							REDUCED AMPLITUDE DURING TIMING CHANGE + IMPROVE RELIABILITY OF HORIZ. OUTPUT STAGE
			1.0H	D7F4					▨																							T.S.P. LOSING OF PINCUSHION DATA
5	10539	12682	3.00	32AB					▨																							
			2.0A	FE54					▨																							MULTI LANGUAGE INTRODUCTION
			2.0B	8CEA					▨																							T.S.P. DURING PRODUCTION (TIMING STORE)
			2.0C	9B44					▨																							T.S.P. DURING PRODUCTION (DISCONNECTION ADJ. SERIAL LINE) + T.S.P. NO RECOGNISE PRESET 10 FROM VGA TO VESA
6	10681	12683	2.0E	21C1					■																							T.S.P. LOOSING TIMING DUE TO SPIKES ON VERT. SYNC DURING CHANGING TIMING OR SWITCH ON-OFF (3)
7	10527	13111	3.0D	CBFB						▨																						REDUCED NUMBERS OF FACTORY PRESET TIMING (FROM 14 TO 12) + T.S.P. MISSING RECOGNITION STORED CHANNELS
			3.0E	C7D3						▨																						T.S.P. MISSING START-UP AFTER POWER OFF (INPUT VIDEO D-SUB)+REDUCED ST.BY OFF TIME FROM 6 TO 3 SEC.
			3.0G	E228						▨																						T.S.P. LOSING OF LINEARITY DATA IN MODE NOT FOUND
8	10677	13112	3.0L	4F1B						■																						T.S.P. OF LOSS OF MEMORY AND IMAGE INTERMI. THIS NEW SOFTWARE NEEDS HARDWARE MODIFICATIONS (SEE SYMPTOM C. MON-95/0017)
9	10448	11933	2.0	53C6									■																			24Mhz version
10	10445	11939	3.0B	03FA										■	■																	24Mhz version
11	10452	12193	2.0	4C1F									▨																			
			2.0B	708C									▨																			T.S.P. DURING PRODUCTION (TIMING STORE)
12	10456	12194	3.0	1561									▨	▨	▨	▨																
			3.0B	02AB									▨	▨	▨	▨																T.S.P. WRONG GEOMETRICAL PARAMETER RECALL AND WRONG LINEARITY WITH VESA 2 TIMING
			2.0D	7373									■	■	■	■																T.S.P. WRONG READING HORIZ. FREQ. DUE TO COMPOSITE SIGNAL WITHOUT SERRATE PULSE
13	10454	12841	1.0F	2205													▨	▨	▨													
			1.0H	0FA5													▨	▨	▨													T.S.P. LOSING OF PINCUSHION DATA
14	10541	12842	3.0	0A46													▨	▨	▨													
			2.0A	F44D													▨	▨	▨													MULTI LANGUAGE INTRODUCTION
			2.0B	61D9													▨	▨	▨													T.S.P. DURING PRODUCTION (TIMING STORE)
			2.0C	7FF3													▨	▨	▨													T.S.P. DURING PRODUCTION (DISCONNECTION ADJ. SERIAL LINE) + T.S.P. NO RECOGNISE PRESET 10 FROM VGA TO VESA
15	10682	12843	2.0E	53F8													■	■	■													T.S.P. REDUCED/DISTORTED IMAGE SWITCHING FROM DOS TO WINDOWS AND VIDEO GREEN DUE TO LOST MEMORY CUT-OFF DATA DUE TO SPIKES ON VERT. SYNC DURING CHANGING TIMING OR SWITCH ON-OFF (3)
16	10529	13201	3.0G	5FF0																▨	▨	▨	▨									T.S.P. LOSING OF LINEARITY DATA IN "MODE NOT FOUND"
17	10678	13202	3.0L	32B6																■	■	■	■									T.S.P. OF LOSS OF MEMORY AND IMAGE INTERMI. THIS NEW SOFTWARE NEEDS HARDWARE MODIFICATIONS (SEE SYMPTOM C. MON-95/0017)
18	10531	13121	1.00A	2CE9																				▨								
			1.0B	4C6F																				▨								CHANGE LCD MESSAGE FROM CHANNEL NR. TO RESOLUTION DATA
			1.00C	63C0																				■								INSERTED POWER DOWN VESA LIMIT
19	10565	13311	3.0B	9FF3																					▨	▨						
20	10627	13312	4.0	D62D							▨														▨	▨						REDUCED DELAY TIME BETWEEN CHANGE TIMING AND "S" CAP. INSERCTION+ADD CHECK TO AVOID FIRMWARE CRASHING WITH HOR. SYNC. FREQ. > 200 kHz+MOVED THE LAST 'S' CAP. INSERCTION FROM 81 TO 86 KhZ TO REDUCE PARABOLA VOLTAGE FROM 90 TO 76V+COMPATIBILITY 20/21" (2)
		13311	4.0A	07CF							▨														▨	▨						T.S.P. DURING FACTORY ADJ. PROCESS + UPDAT PINCUSHION, BAL.,KEYSTONE,PARALL. AND ROTATING FACTORY AREA
		13312	4.0B	86AF							▨														▨	▨						UNCORRECT OPERATION OF KEYS SEQUENCE <MEM.SELECT> <MEM.RCL> <MEM.RCL>+ (CP7456)
	10727	13312	4.0C	1132							■														■	■						UNCORRECT OPERATION DURING FACTORY PRESET ADJ. USING COMMAND FOR TIMING PRESET (CP7484)

LEGENDA: ▨ OLD TYPE ■ CURRENT TYPE PHASE - OUT MONITOR

T.S.P. = TO SOLVE THE PROBLEM OF (rev.:14 1995-10-30)

(1) = Needs hardware modification (See Symptom Cure Information MON-95/0009 and MON-95/0011)

(2) = Versions 21B30300/.. needs hardware modification (See Symptom Cure Information MON-95/0014)

(3) = Needs hardware modification (See Symptom Cure Informations MON-95/0018 and MON-95/0019)

EPROM SURVEY

			TYPE		C2082DAS/								C2182DAS/												21B30300	21B30300	21A11200	21A11201	21A11202	21A11204	21BA9029	REASONS OF CHANGES / NOTES 2 / 2
Nr.	SERVICE CODE	FACTORY CODE	VERSION OR RANGE		-	A	2A	BA	II	TC	01		-	A	2A	BA	II	HH	PH	HA	HP	HT	PA	HG	AN 30 -> 59	AN 00 -> 29	01S - 17S	01S	01S-17S-75S	01S	00S	
	4822 900	3119 209	VER	CHKS																												
			2.00A	63C0																							▨	▨				
			2.01A	DF38																							▨	▨				T.S.P. 1)"OUT OF RANGE" MESSAGE WITH COMPOSITE TIMING AT 31 KHZ 2) COMMUNICATION PROBLEM WITH LIGHT PROBE (INSERT A SEQUENCE "ESC T9" TO ENABLE THE TERMINAL FEATURES AND A SEQUENCE "ESC T8" TO DISABLE IT) 3) MODIFY CH12 MESSAGE FROM 60 TO 72 KHZ 4) UNLOCKED POTMETERS (BRIGHTNESS AND CONTRAST) DURING KEY-LOCK FEATURES
			2.01B	F588																							▨	▨				T.S.P. MISCONVERGENCE AND BRIGHTNESS UNIFORMITY DUE TO MEMORY LOSS ON DDA (SPIKES FROM EHT GENER.)
		13351	2.01C	F64B																							▨	▨				T.S.P. LOSING EPROM DATA + SOFT HOR. WIDTH DATA LOADING
			2.01F	1FFA																							▨	▨				REDUCED DELAY TIME BETWEEN CHANGE TIMING AND "S" CAP. INSERCTION - ADD CHECK TO AVOID FIRMWARE CRASHING WITH HOR. SYNC. FREQ. > 200 kHz (1)
			2.01G	246F																							▨	▨				MOVED THE LAST 'S' CAPACITOR INSERCTION FROM 81 TO 86 KhZ TO REDUCE PARABOLA VOLTAGE FROM 90 TO 76V (1)
21	10567	13352	2.01H	3B0A																							■	■				INCREASE THE TIME BEFORE TO CONFIRM THE HOR. FREQUENCE MEASURE AFTER THE CHANGE TIMING (CP7439)
		13354	3.10A	B318																									▨	▨		
22	10672	13354	3.10B	B1DD																									■	■		CORRECT LCD GERMAN MESSAGES (CP7462)
		13542	1.00A	4A1D																											▨	*Software on floppy disk*
	10673	13543	1.00B	0190																											▨	*Software on floppy disk* - T.S.P. PRODUCTION
23	**901 10006**	13544	1.00C	B1DD																											■	ADDED HOR. PHASE SHIFT DURING THE STORING OF MODE NOT FOUND CHANNELS (CP7475)

Autoscan Colour monitor
DAS, 21A90, 21B90, CM0900

Service
Service
Service

95.02

Service Information

Herewith publication 4822 727 20641 can be deleted.

This service information covers all the following type numbers:

C2082DAS/..	
2082DC/..	
C2182DAS/..	
2182DC/..	
21B30300/01S	(C2190DAS/PC)
21B30300/17S	(2190DC/PC)
21B30301/01S	(C2190DAS/TT)
21BA9029/..	(CM0900PH /HI)
C2082DAS/..	
21A11200/01S	(C2190DAS/HG)
21A11200/17S	(2190DC/HG)
21A11201/01S	(C2190DAS/HS)

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FRU'S SURVEY

pag. 2/2

PWB	SERVICE CODE	FACTORY CODE		
			TYPE	21BA9029
			FACTORY CODE RANGE	
			VERSION / FACTORY CODE	/00S
			START PROD.	May '95
	4822 XXX	9919 XXX	STATUS	
Video + Logic	212 31993	208 63760	1	■
SMPS + CRT + EHT	31997	63840	1	■
AC/DC Converter	31996	63830	1	■
Main + Low Level	31995	63810	1	■
CRT Assy	131 20665	207 12800	1	■
Control Assy	212 31994	208 63770	1	■

TYPE CONVERSION TABLE

COMMERCIAL TYPE	FACTORY TYPE
21B30300/01S	C2190DAS/PC
21B30300/17S	2190DC/PC
21B30301/01S	C2190DAS/TT
21A11200/01S	C2190DAS/HG
21A11200/17S	2190DC/HG
21A11201/01S	C2190DAS/HS
21A11202/01S	21A11202 /01S
21A11202/17S	
21A11202/75S	
21A11204/01S	21A11204/01S HI
21BA9029/00S	CM0900PH /HI

FRU'S SURVEY

rev.:04 - 6.11.95 **pag. 1/2**

			TYPE	C2082DAS/							C2182DAS/													21B30300	21B30300	21B30301	21A11200	21A11201	21A11202	21A11202	21A11204
			FACTORY CODE RANGE																					30 > 59	00 > 29						
			VERSION / FACTORY CODE	-	A	2A	BA	II	TC	01	-	A	2A	BA	II	HH	PH	HA	HP	HT	PA	PC	HG	AN	AN	01S	01S - 17S	01S	01S-17S	75S	01S
PWB	SERVICE CODE	FACTORY CODE	START PROD.	Nov.92	Apr.93	Apr.93	June 93	Oct.93	Apr.94	Apr.95	Jan. 93	Apr.93	Apr.93	Aug.93	Oct.93	Dec. 93	July 94	Jun.94	Jul.94	Jul.94	May.94	Sep.94	Jul.94	Oct.94	Oct.94	Mar. '95	Oct..94	Dec.94	July '95		Sept. '95
	4822 XXX	9919 XXX	STATUS																												
Logic	212 30896	208 62270	2								▨																				
	30896	62272	2	■	■	■	■				■	■	■	■																	
	30931	63141	1					■	■	■					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Power	30161	62280	2	■	■	■	■				■	■	■	■																	
(SMPS)	30959	63000	2					■							■	■	■														
	31441	63651	1																				■				■	■	■	■	■
	31513	62931	2						■									■	■	■	■	■		■	■	■					
	31985	63970	1							■																					
Video board	30932	63151	2					■							■	■	■														
	30937	62322	2	■	■	■	■				■	■	■	■																	
	31442	63681	2																				■				■	■			
	31517	63601	1						■	■								■	■	■	■	■		■	■	■					
	32167	63910	1																										■	■	■
Video-int	30166	62470	2	■	■	■	■																								
	32437	62770	2								■	■	■	■																	
	30933	63161	2					■																							
	30968	63301	2												■	■	■														
	31514	63541	1						■	■																					
	31516	63591	2															■	■	■	■	■		■	■	■					
Crt s.board	30173	62442	1	■	■	■	■	■	■	■																					
	30208	62780	2								■	■	■	■	■	■	■	■	■	■	■	■		■	■	■					
	31437	63481	1																				■				■	■	■	■	■
Main	30926	62940	2					▨																							
	30941	63281	2													▨															
	30954	62593	2	■	■	■	■																								
	30955	62752	2								■	■	■	■																	
	31238	63491	2														■														
	31438	63561	2												▨	▨		▨	▨	▨			▨								
	31515	63571	2														■				■	■									
	31521	63551	2					■	■																						
	31681	63801	2												■	■		■	■	■			■	■			■	■			
	31682	63851	2														■				■	■			■	■					
	31983	63930	1							■																					
	32168	64100	1																										■	■	■
Degaussing	30165	62460	2		▨	▨	▨				▨	▨	▨	▨		▨		▨	▨	▨	▨										
	30892	63411	2	■	■	■	■	■			■	■	■	■	■	■	■	■	■	■	■										
	30892	62990	2		▨	▨	▨					▨	▨	▨	▨	▨	▨														
	31439	63621	1																				■				■	■	■	■	■
	31518	63611	1						■	■												■		■	■	■					
Low level	30162	62300	2	■	■	■	■																								
	30206	62760	2								■	■	■	■																	
	30927	62980	2					■	■																						
	30942	63291	1												■	■		■	■	■			■	■			■	■	■	■	■
	31241	63511	2														■				■	■			■	■					
	31984	63960	1							■																					
Hor.Sync	30163	62310	2	■	■	■	■				■	■	■	■																	
	30929	63010	2												■	■	■														
	31444	63731	1					■	■	■								■	■	■	■	■	■	■	■	■	■	■	■	■	■
Control	30961	63341	1					■	■	■					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
CRT assy	131 20479	207 11441	2	■	■	■	■	■	■																						
	20578	11451	2								■	■	■	■	■	■		■	■												
	20595	12281	2														■				■	■			■						
	20606	12301	1																				■				■		■		
	20615	12361	2																					■							
	20625	12511	2																	■											
	20638	12571	1																									■		■	■
	20664	12810	1							■																					
	20672	12880	2																							■					
DDA assy	31443	208 63691	2																				■				■	■			
	31991	64080	1																										■	■	■
High.V.Gen.	212 31225	207 12181	1	■	■	■	■	■	■	■							■				■	■			■						
	31226	12191	1								■	■	■	■	■	■		■	■	■			■	■		■	■	■	■	■	■

LEGENDA:

STATUS 1 = IN PRODUCTION
STATUS 2 = OUT OF PRODUCTION

▨ OLD TYPE

■ CURRENT TYPE

PHASE - OUT MONITOR

Colour monitor

Service
Service
Service

C2.82, 21A, 21B

94.01

Service Information

This service information covers all the following type numbers:

TYPE/CHASSIS **Survey:**

Old type number (until end Dec.'94)	New type number (as of Jan.'95)	Chassis
C2082DAS/..	No change	DAS
C2182DAS/..	No change	DAS
2082DC/..	No change	DAS
2182DC/..	No change	DAS
C2182DAS/HG	No change	PP (plus/plus)
C2190DAS/HG	21A11200/01S	21A90
C2190DAS/HS	21A11201/01S	21A90
C2190DAS/PC/HC	21B30300/01S	21B90
2190DC/PC/HC	21B30300/17S	21B90
2190DC/HG	21A11200/17S	21A90

1. LOGIC BOARD REPLACEMENT

If the logic board has to be replaced and it is not possible to place on the new panel the EEPROM (7703) original mounted on the defective panel, it is necessary to make a new monitor set up (including chromaticity and memory channels adjustments) by using the following procedures.

Equipment:- SOFTWARE PACKAGE RELEASE 2.1
(4822 727 20398)
- A WORKING MONITOR OF THE SAME TYPE
- RS232 CABLE (4822 321 21988)

INSTRUCTIONS

A Save the monitor set up from a working monitor

1a. Connect the monitor via the RS232 serial port to the computer and start the DASTEST Release 2.1 software.
2a. Go to the utility menu EEprom tools.
3a. Select "Save to disk", the program will ask you the name to save the file. If you are using a C2082DAS/II you can call the file with the same name of the monitor or other, as example C20DAS.
By pressing "+" you can see the names of the previous saved files.
At this moment you have saved the file on the same directory where you are running the DASTEST program.
You can prepare a list of "master" files for the different monitor models. By doing so, this part of the instruction only has to be done once !

B Restore the set up into the repaired monitor

If during the repair you have to replaced the logic board, the new board has the EEprom empty. If you connect the monitor to the computer, the DAS monitor does not recognise any type of factory timings.

1b. Connect the monitor via the RS232 serial port to the computer and start the DASTEST Release 2.1 software.
2b. Go to the utility menu EEprom tools.
3b. Select "Restore to DAS", the program will ask you the name of the file you want to restore. Following the above example you can restore C20DAS on the C2082DAS/II monitor.
By pressing "+" you can see the list of the saved files.
4b. At this moment you have restored all the parameters from the master monitor files. The factory preset timing has been restored, you have to readjust only the geometry and chromaticity parameters.

2. MAIN BOARD COMPATIBILITY

This information is valid only for the C2182DAS and 2182DC versions.

The main boards of above mentioned versions will be replaced by the main boards from the new 90 kHz sets.

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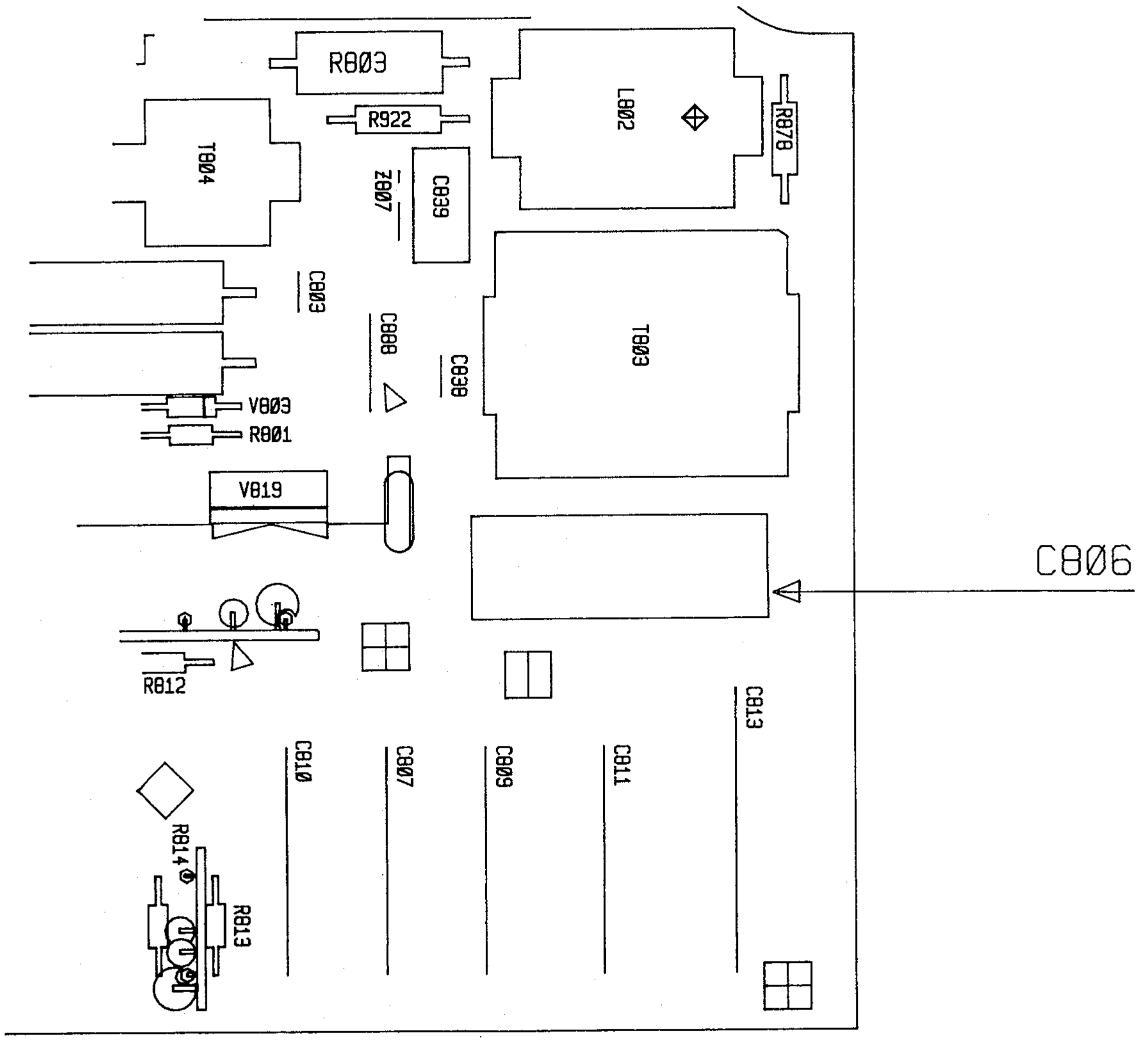
The following table indicates the replacement reference:

VERSIONS	MAIN BOARD (OLD)	MAIN BOARD (NEW)
C2182DAS/HG 2182DC/HG	4822 212 31438	4822 212 31681 + change capacitor C806 from 270nF/630V to 330nF/630V (*)
C2182DAS/PC 2182DC/PC	4822 212 31515	4822 212 31682 + change capacitor C806 from 560nF/630V to 390nF/400V (*)

- **THE POSITION OF THE NEW CAPACITOR C806 IS SHOWED IN FIGURE 1.**

(*) This capacitor plus an instruction sheet will be packed into the FRU'S 4822 212 31681/31682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L802
R870
T804
Z807
C839
C803
C808
C838
T803
V803
R801
V819
C806
R812
C813
C810
C807
C809
C811
R814
R813

Fig. 1

3) FRU'S SURVEY

			TYPE	C2082DAS/							C2182DAS/														TYPE	21B30300	21B30300	21A11200	21A11201	
																									FACTORY CODE RANG	30>59	00>29			
			VERSION	░ -	░ A	░ 2A	░ BA	░ II	TC		░ -	░ A	░ 2A	░ BA	░ II	░ HH	░ PH	HA	HP	HT	PA	PC	HG		FACTORY CODE/ VERSION	AN	AN	01S - 17S	01S	
PWB	SERVICE CODE	FACTORY CODE	START PROD.	░ Nov.92	░ Apr.93	░ Apr.93	░ June 93	░ Oct.93	Apr.94		░ Jan.93	░ Apr.93	░ Apr.93	░ Aug.93	░ Oct.93	░ Dec. 93	░ July 94	Jun.94	Jul.94	Jul.94	May.94	Sep.94	Jul.94		START PROD.	Oct.94	Oct.94	Oct..94	Dec.94	
	4822 XXX	9919 XXX	STATUS																											
Logic	212 30896	208 62270	2								▨																			
	30896	62272	1	■	■	■	■				■	■	■	■																
	30931	63141	1					■	■						■	■	■	■	■	■	■	■	■			■	■	■	■	
Power	30161	62280	2	■	■	■	■				■	■	■	■																
(SMPS)	30959	63000	2					■							■	■	■													
	31444	63651	1																				■					■	■	
	31513	62931	1						■									■	■	■	■	■				■	■			
Video board	30932	63151	2					■							■	■	■													
	30937	62322	2	■	■	■	■				■	■	■	■																
	31442	63681	1																				■					■	■	
	31517	63601	1						■									■	■	■	■	■				■	■			
Video-int	30166	62470	2	■	■	■	■																							
	30207	62770	2								■	■	■	■																
	30933	63161	2					■																						
	30968	63301	2												■	■	■													
	31514	63541	1						■																					
	31516	63591	1															■	■	■	■	■				■	■			
Crt s.board	30173	62440	1	■	■	■	■	■	■																					
	30208	62780	1								■	■	■	■	■	■	■	■	■	■	■	■				■	■			
	31437	63481	1																				■					■	■	
Main	30926	62940	2					▨																						
	30941	63281	2													▨														
	30954	62593	1	■	■	■	■																							
	30955	62572	2								■	■	■	■																
	31238	63491	2														▨													
	31438	63561	1												▨	▨		▨	▨	▨			▨							
	31515	63571	1														▨				▨	▨								
	31521	63551	1					■	■																					
	31681	63801	1												■	■		■	■	■			■			■		■	■	
	31682	63851	1														■				■	■					■			
Degaussing	30165	62460	2		▨	▨	▨				▨	▨	▨	▨		▨		▨	▨	▨	▨									
	30892	63411	1	■	■	■	■	■			■	■	■	■	■	■	■	■	■	■	■									
	30892	62990	2		▨	▨	▨					▨	▨	▨	▨	▨	▨													
	31439	63621	1																				■					■	■	
	31518	63611	1						■													■				■	■			
Low level	30162	62300	1	■	■	■	■																							
	30206	62760	1								■	■	■	■																
	30927	62980	1					■	■																					
	30942	63291	1												■	■		■	■	■			■			■		■	■	
	31241	63511	1														■				■	■					■			
Hor.Sync	30163	62310	1	■	■	■	■				■	■	■	■																
	30929	63010	2												■	■														
	31444	63731	1					■	■									■	■	■	■	■	■			■	■	■	■	
Control	30961	63341	1					■	■						■	■	■	■	■	■	■	■	■			■	■	■	■	
CRT assy	131 20479	207 11441	1	■	■	■	■	■	■																					
	20578	11451	1												■	■		■	■											
	20595	12281	1								■	■	■	■			■				■	■					■			
	20606	12301	1																				■					■		
	20615	12361	1																							■				
	20625	12511	1																	■										
	20638	12571	1																										■	
DDA assy	212 31443	208 63691	1																				■					■	■	

LEGENDA:

STATUS 1 = IN PRODUCTION
STATUS 2 = OUT OF PRODUCTION

▨ OLD TYPE ■ CURRENT TYPE ░ PHASE - OUT MONITOR

28/10/94

VIDE-V16304

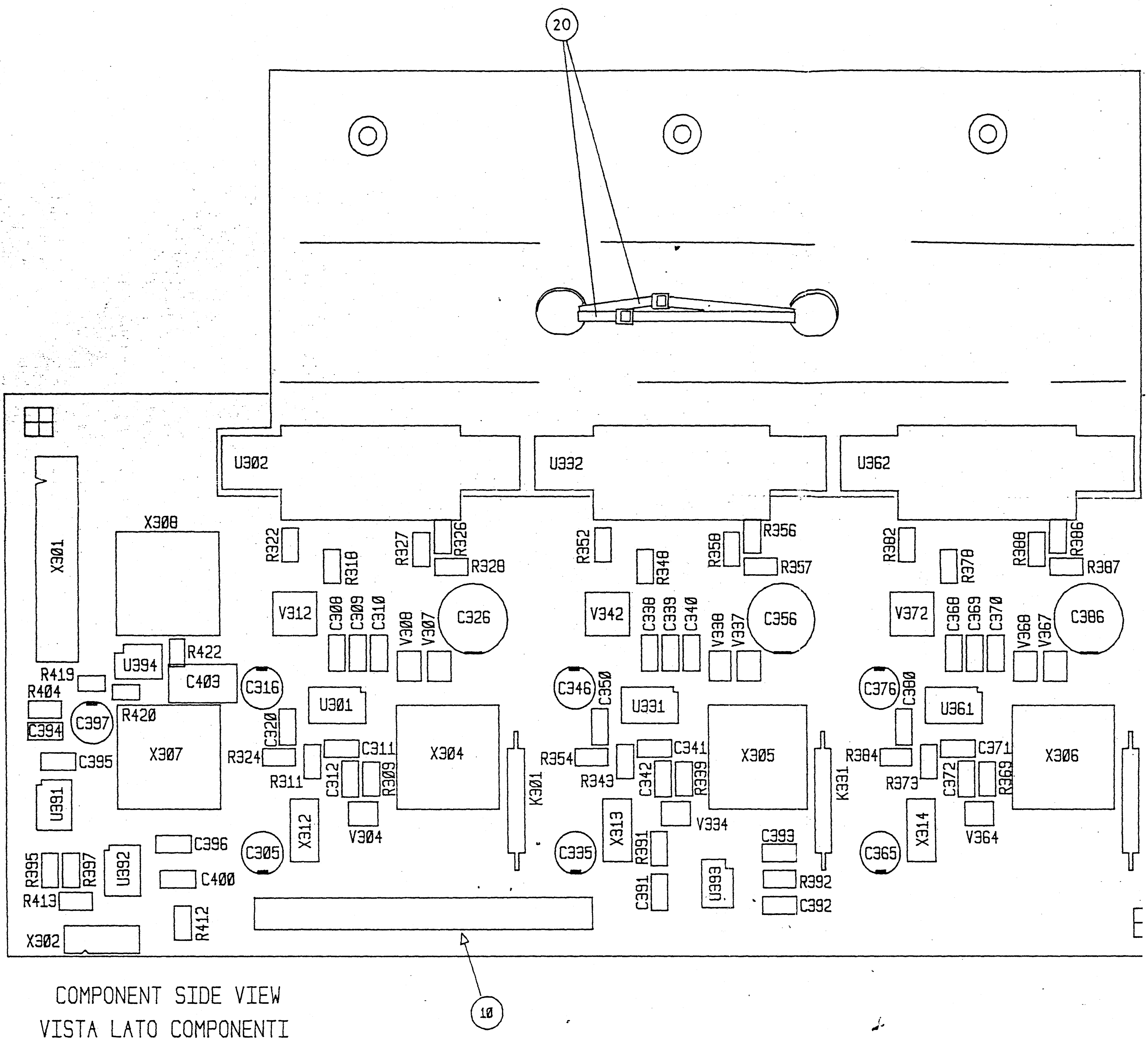
SERVICE MANUAL

PHILIPS

C 2082 / C 2182

LfdNr.

Printed by: Schaltungsdienst Lange, Berlin (Germany)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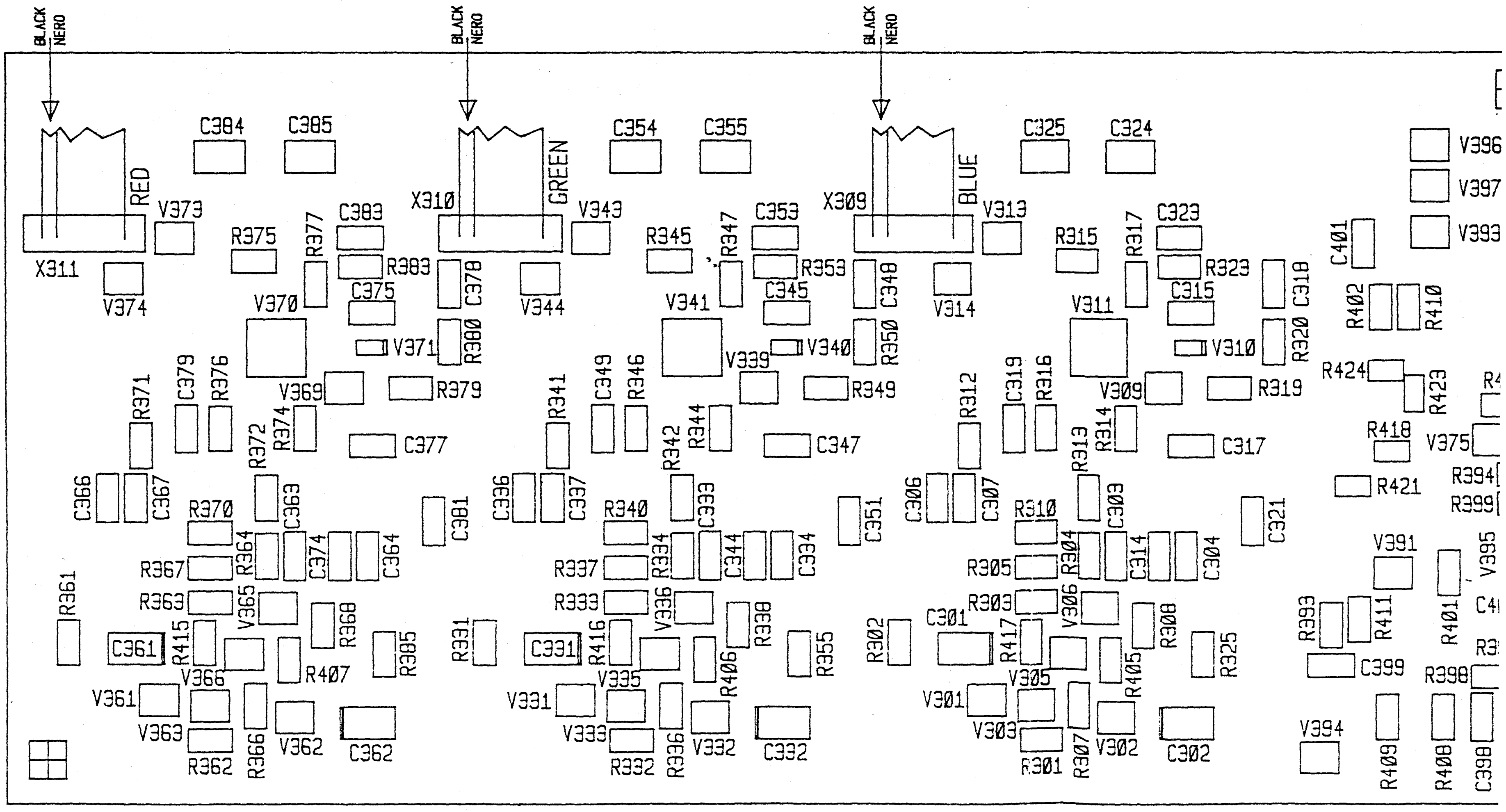
10

COMPONENT SIDE VIEW
VISTA LATO COMPONENTI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V393
X311
V373
R375
R377
C383
R383
X310
V343
R345
R347
C353
R353
X309
V313
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V336
R338
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R336
V332
C332
V301
V303
V302
C302
V394
R409
R408
C398
R362
R332
R301
R307

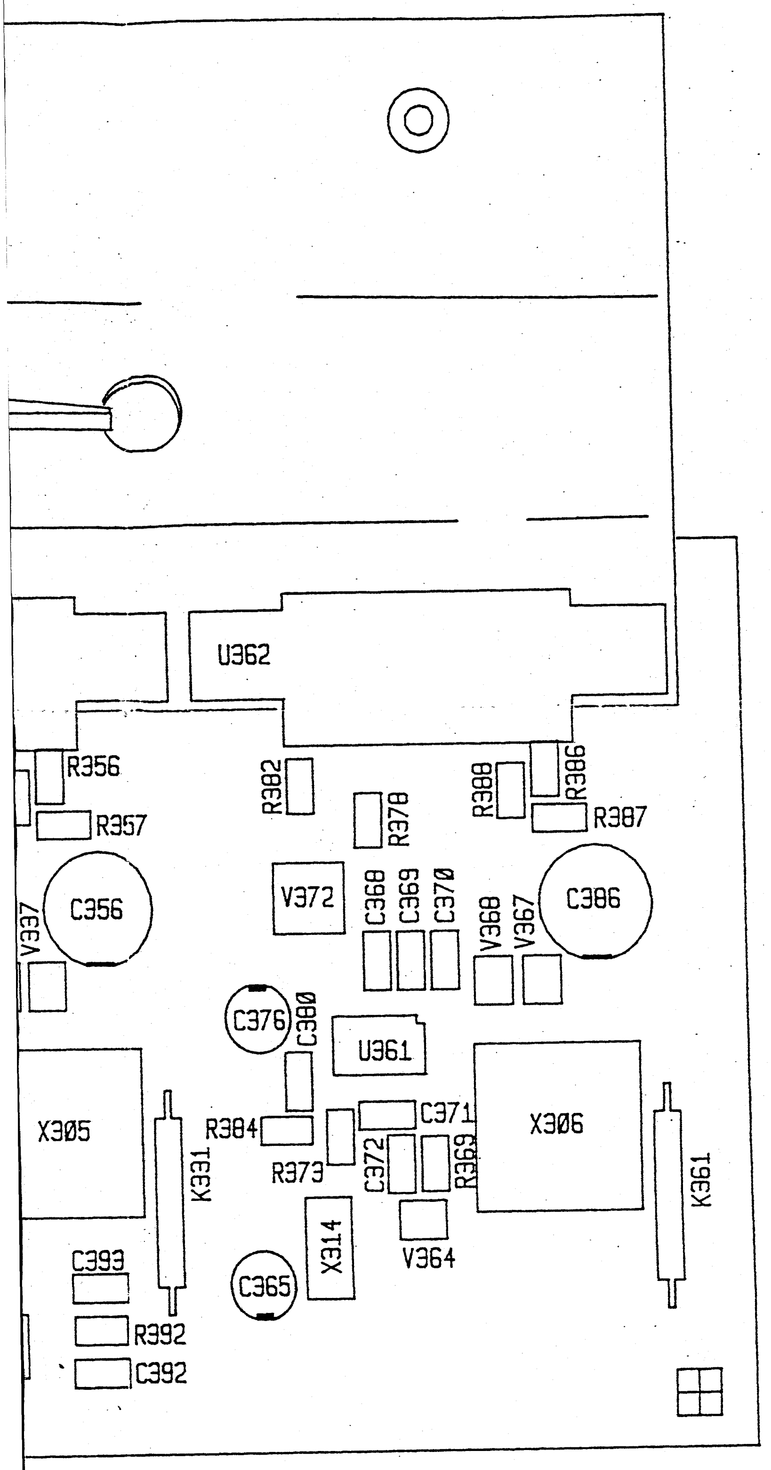
SOLDER SIDE VIEW
VISTA LATO SALDATURE

SOLDER PASTE MASK COMP. SIDE : MASCH. PASTA SALD. LATO COMP.:	8219 253 3509.3	SEE : VEDI:	SP0
SOLDER PASTE MASK SOLDER SIDE: MASCH. PASTA SALD. LATO SALD.:	8219 253 3510.3	SEE : VEDI:	SP0

4 5 6 7 8

VENDOR SHALL CERTIFY COMPLIANCE WITH
ENVIRONMENTAL REQUIREMENTS ACCORDING
RULE : UAN-D1783

IL FORNITORE CERTIFICHERA IN CONFORM
CON I REQUISITI AMBIENTALI SECONDO LE
NORME : UAN-D1783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R357
R382
R378
R388
R386
R387
V337
C356
V372
C368
C369
C370
V368
V367
C386
C376
C380
U361
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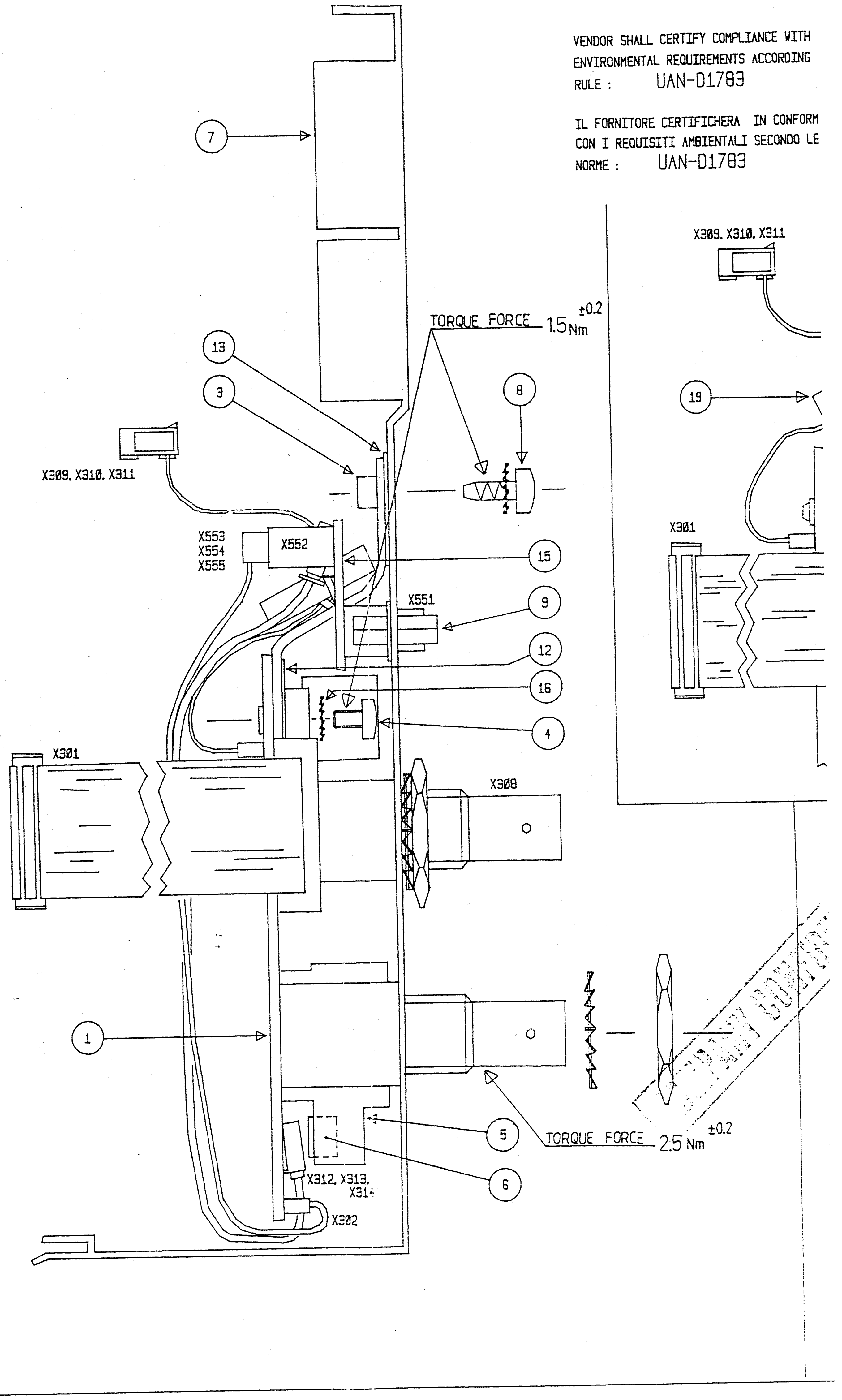
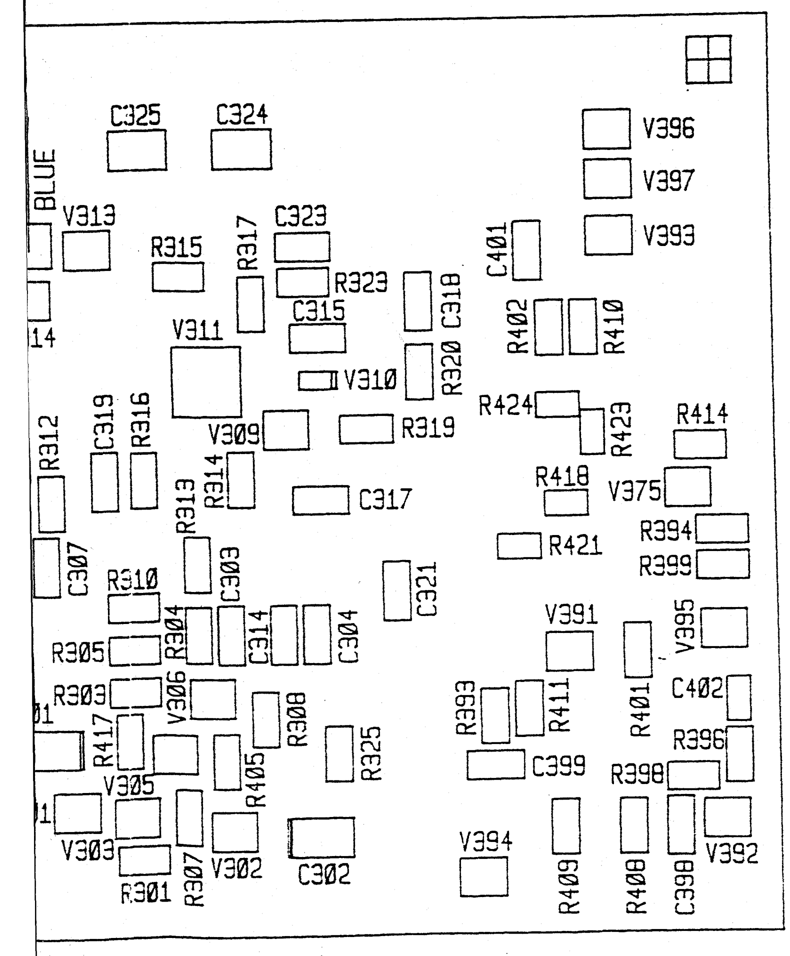
K361
X314
V364
C393
C365
R392
C392


7
13
3
8
TORQUE FORCE 1.5 Nm ±0.2
X309, X310, X311
X553
X554
X555
X552
15
X551
9
12
16
4
X301
X308
1
5
6
X312, X313, X314
X302
TORQUE FORCE 2.5 Nm ±0.2
X309, X310, X311
19
X301


BLUE
C325
C324
V396
V397
V393
V313
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R317
C323
R323
C401
C315
V311
V310
R320
C318
R402
R410
R312
C319
R316
V309
R319
R424
R423
R414
R313
R314
C317
R418
V375
R421
R394
R399
C307
R310
C303
C321
V391
V395
R305
R304
C314
C304
R303
V306
R308
R393
R411
R401
C402
R417
R405
R325
R396
V305
C399
R398
V303
V302
C302
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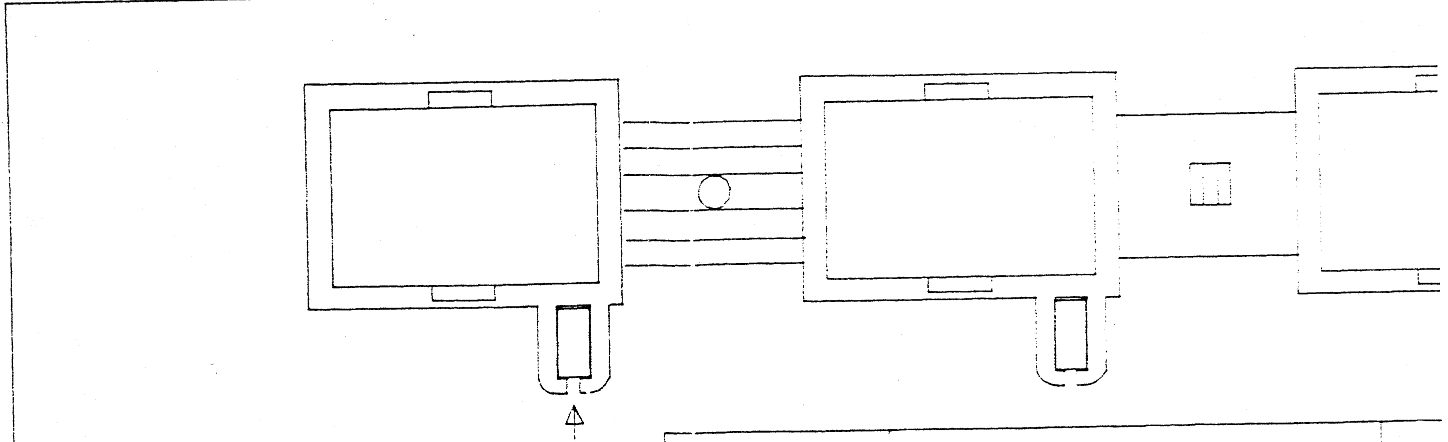
R307
R409
R408
C398



YELLOW SIDE OF THE MAGNET
LATO GIALLO DEL MAGNETE

IDE : 8219 253 3509.3 SEE : VEDI: SP01
MP.:

SIDE: ALD.: 8219 253 3510.3 SEE : VEDI: SP02

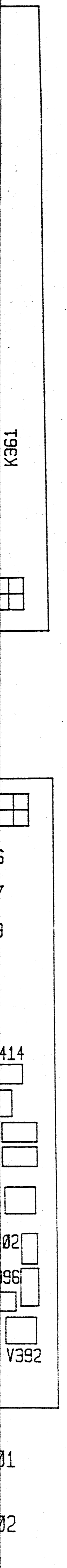
CLASS NO.
94-02-04 CG
C20/21' DAS/BR
PCB VIDEO AMPL.
203 3564
NAME GIAMPIERI
SUPERS.
1 SH
PROPERTY OF FIMI S. R. L. - M ANO - FABB. SARONNO - IT

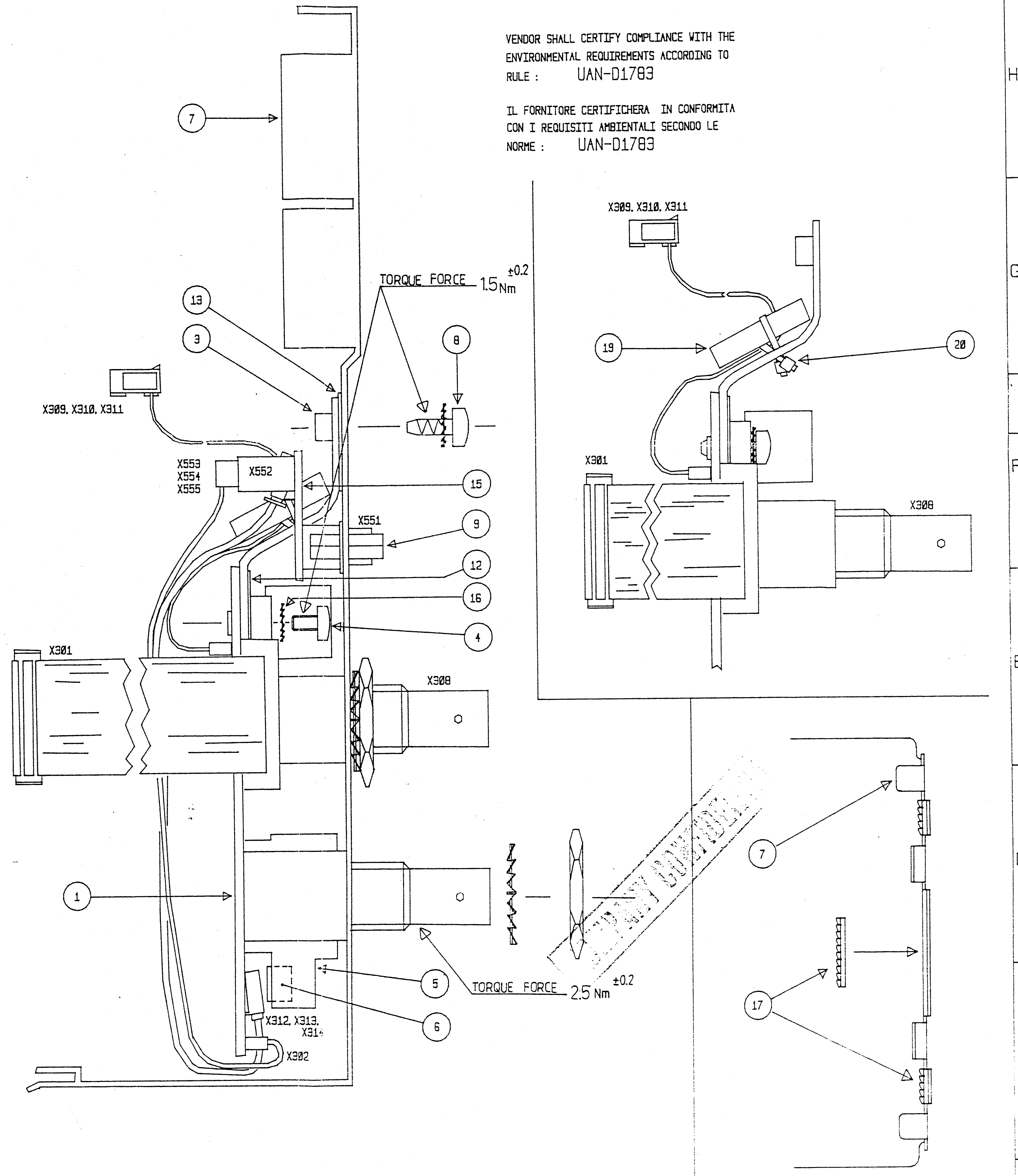
ALL RIGHTS STRICTLY RESERV
TO THIRD PARTIES IN ANY FO
WITHOUT WRITTEN AUTHOR

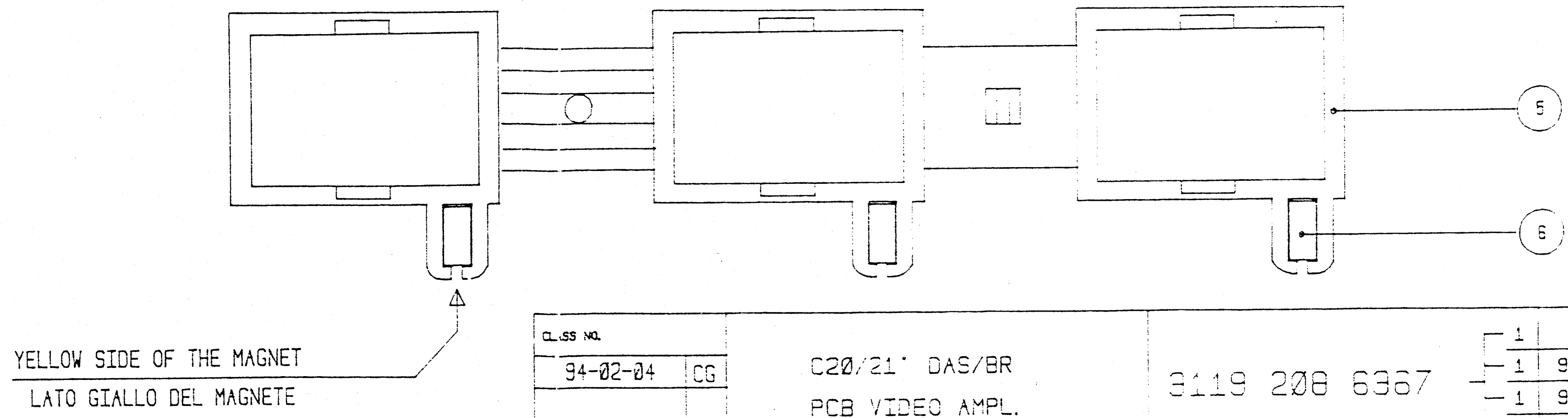
4 5 6

VENDOR SHALL CERTIFY COMPLIANCE WITH THE ENVIRONMENTAL REQUIREMENTS ACCORDING TO RULE : UAN-D1783

IL FORNITORE CERTIFICHERA IN CONFORMITA CON I REQUISITI AMBIENTALI SECONDO LE NORME : UAN-D1783


K361
414
02
96
V392
01
02


7
13
3
TORQUE FORCE 1.5 Nm ±0.2
8
X309, X310, X311
X553
X554
X555
X552
15
X551
9
12
16
4
X301
X308
1
5
6
X312, X313, X314
X302
TORQUE FORCE 2.5 Nm ±0.2
X309, X310, X311
19
20
X301
X308
7
17
H
G
F
E
D
C



YELLOW SIDE OF THE MAGNET

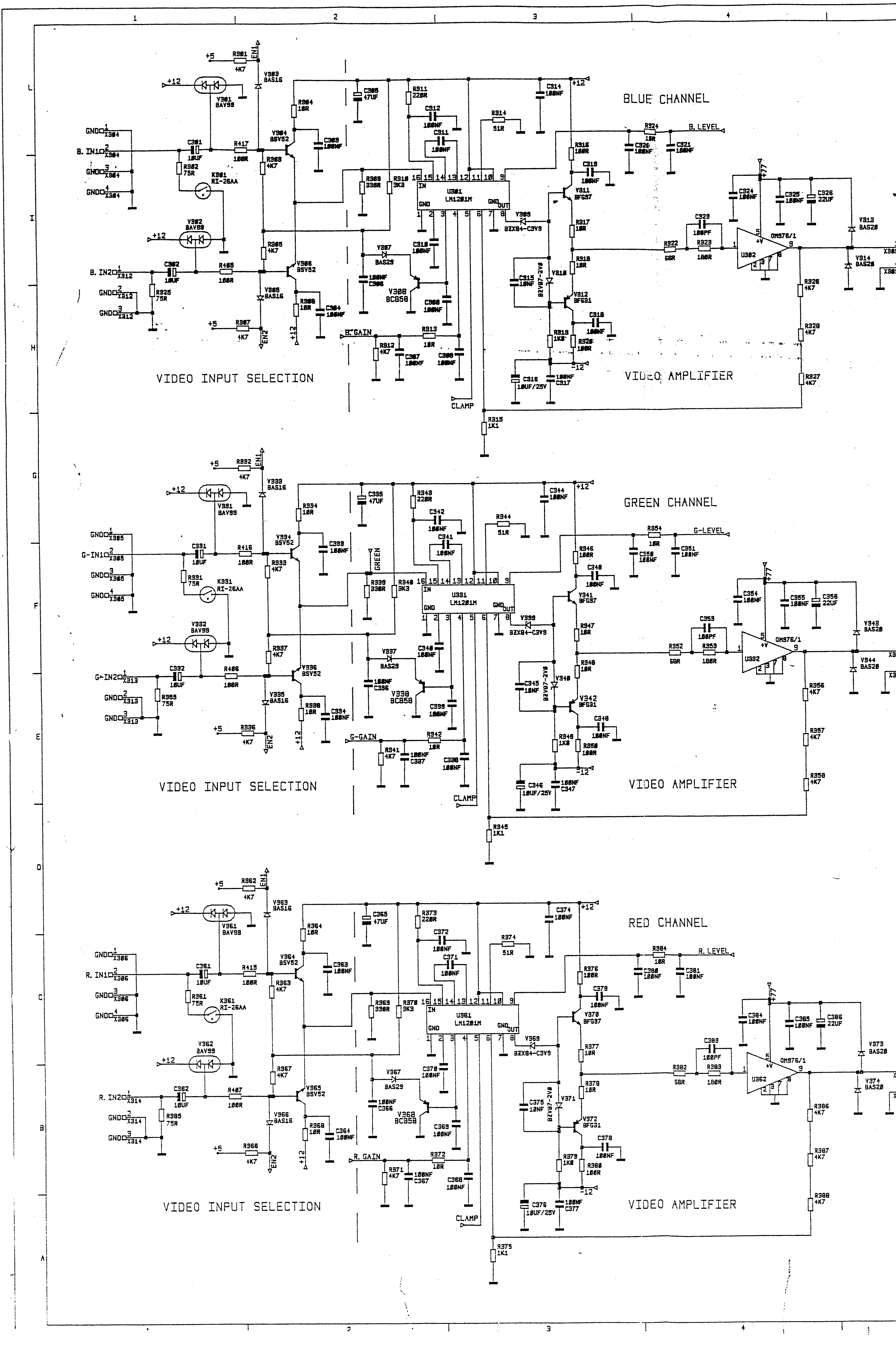
LATO GIALLO DEL MAGNETE

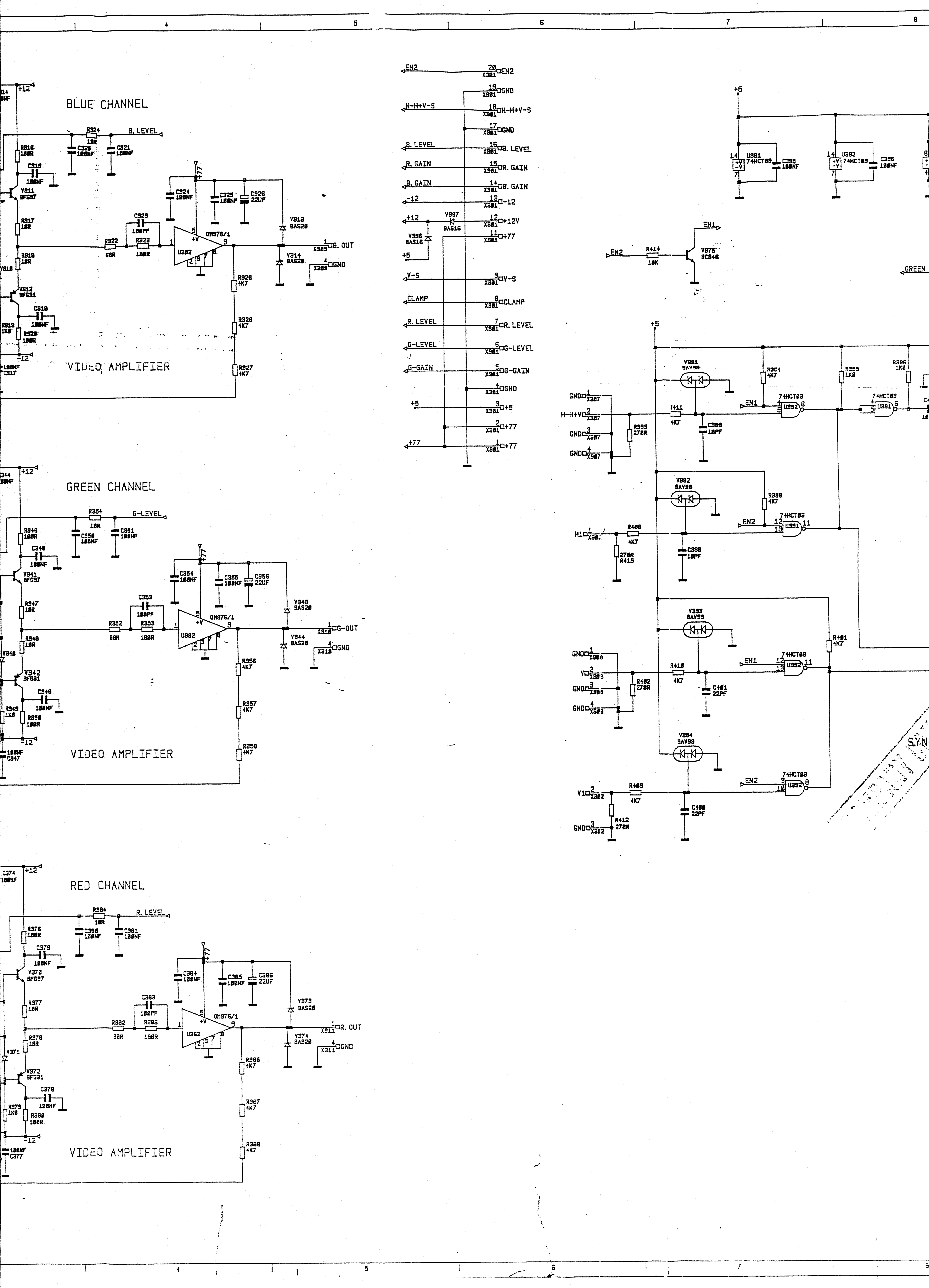
CLASS NO.					
94-02-04	CG	C20/21" DAS/BR PCB VIDEO AMPL.	3119 208 6367	1	-
				1	94-03-01
				1	94-09-21
203 3564				1	96-01-11
NAME GIAMPIERI		SUPERS.	1 SH.	SH. 110 — 1	-
AN	PROPERTY OF	FIMI S. R. L. - M ANO - FABB. SARONNO - ITALY	CHECK	DATE 94-02-04	FORM. A2

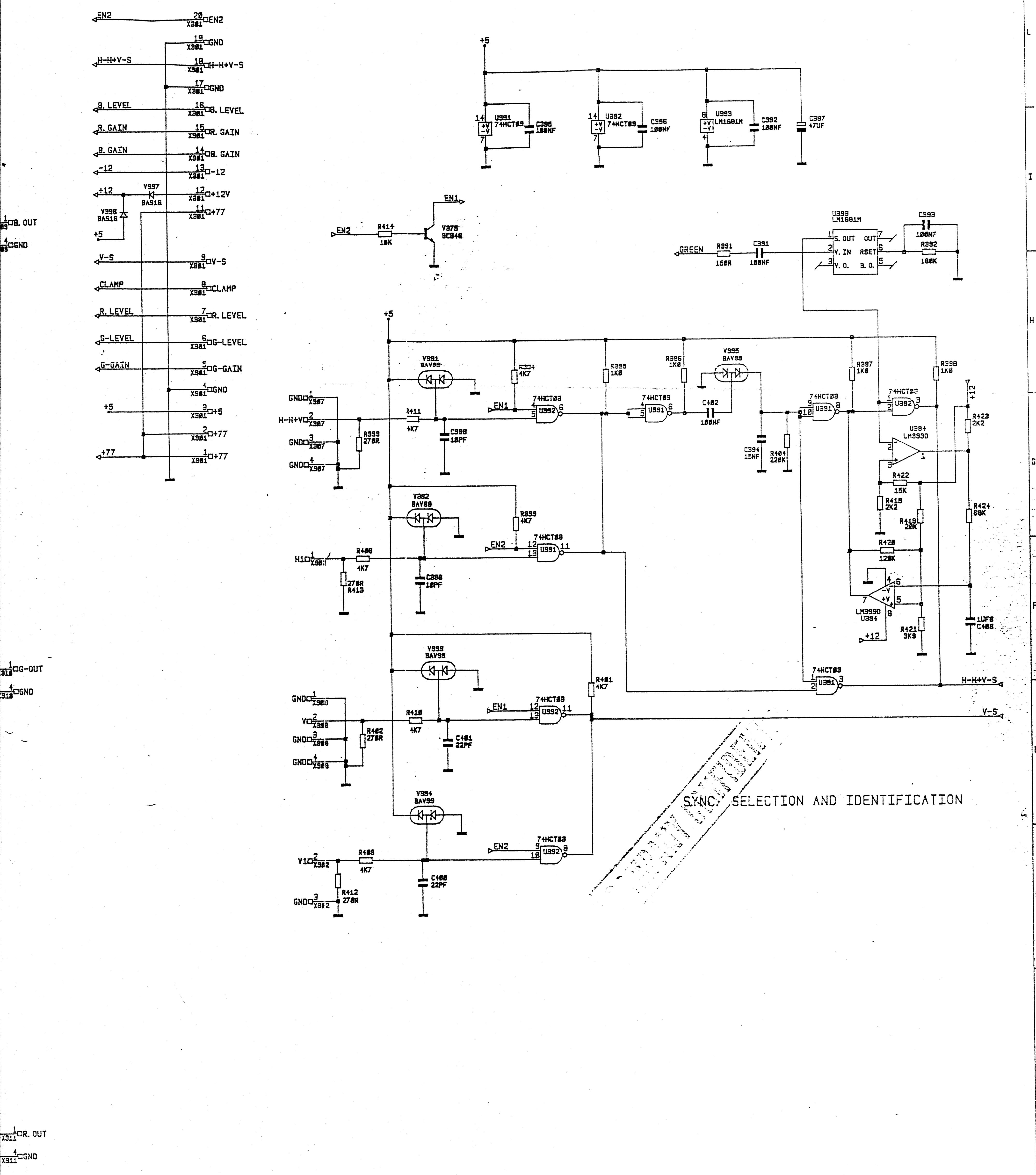
A

ALL RIGHTS STRICTLY RESERV ... TION OR ISSUE TO THIRD PARTIES IN ANY FO ... Y PERMITTED WITHOUT WRITTEN AUTHOR... TOR.

TUTTI I DIRITTI SONO STRETTAMENTE RISERVATI. LA RIPRODUZIONE O LA COMUNICAZIONE A TERZI E VIETATA IN QUALUNQUE FORMA SENZA AUTORIZZAZIONE SCRITTA DELLA PROPRIETARIA.


1
2
3
4
L
I
H
G
F
E
D
C
B
A
BLUE CHANNEL
VIDEO INPUT SELECTION
VIDEO AMPLIFIER
+5
R901
4K7
EN1
V903
BAS16
+12
V901
BAV99
GND
X304
B. IN1
C901
10UF
R417
100R
R902
75R
K901
RI-26AA
V904
BSV52
R904
10R
R903
4K7
C903
100NF
C905
47UF
R911
220R
C912
100NF
C911
100NF
R909
330R
R910
3K3
U901
LM1201M
IN
GND
GND OUT
R914
51R
C914
100NF
R916
100R
C919
100NF
V911
BFG97
V909
BZX84-C3V9
R917
10R
R918
10R
V910
BZV87-2V0
C915
10NF
V912
BFG31
C918
100NF
R919
1K0
R920
100R
-12
C916
10UF/25V
C917
100NF
B. LEVEL
R924
10R
C920
100NF
C921
100NF
+7
C924
100NF
C925
100NF
C926
22UF
C929
100PF
R922
68R
R923
100R
U902
OM976/1
V913
BAS28
V914
BAS28
R926
4K7
R928
4K7
R927
4K7
V902
BAV99
B. IN2
X312
C902
10UF
R405
100R
R925
75R
R905
4K7
V905
BSV52
V906
BAS16
R906
10R
C904
100NF
R907
4K7
EN2
V907
BAS29
C910
100NF
C906
100NF
V908
BC858
C909
100NF
B. GAIN
R912
4K7
C907
100NF
R913
10R
C908
100NF
CLAMP
R915
1K1
GREEN CHANNEL
R932
V933
BAS16
V931
BAV99
X305
G-IN1
C931
10UF
R416
100R
R931
75R
K931
RI-26AA
V934
BSV52
R934
10R
R933
4K7
C933
100NF
C935
47UF
GREEN
R943
220R
C942
100NF
C941
100NF
R939
330R
R940
3K3
U931
LM1201M
R944
51R
C944
100NF
R946
100R
C940
100NF
V941
BFG97
V939
BZX84-C3V9
R947
10R
R948
10R
V940
BZV87-2V0
C945
10NF
V942
BFG31
C948
100NF
R949
1K0
R950
100R
C946
10UF/25V
C947
100NF
G-LEVEL
R954
10R
C950
100NF
C951
100NF
C954
100NF
C955
100NF
C956
22UF
C959
100PF
R952
68R
R953
100R
U932
OM976/1
V943
BAS28
V944
BAS28
R956
4K7
R957
4K7
R958
4K7
V932
BAV99
G-IN2
X313
C932
10UF
R406
100R
R955
75R
R937
4K7
V936
BSV52
V935
BAS16
R938
10R
C934
100NF
R936
4K7
V937
BAS29
C940
100NF
C936
100NF
V938
BC858
C939
100NF
G-GAIN
R941
4K7
C937
100NF
R942
10R
C938
100NF
R945
1K1
RED CHANNEL
R962
V963
BAS16
V961
BAV99
X306
R. IN1
C961
10UF
R415
100R
R961
75R
K961
RI-26AA
V964
BSV52
R964
10R
R963
4K7
C963
100NF
C965
47UF
R973
220R
C972
100NF
C971
100NF
R969
330R
R970
3K3
U961
LM1201M
R974
51R
C974
100NF
R976
100R
C979
100NF
V970
BFG97
V969
BZX84-C3V9
R977
10R
R978
10R
V971
BZV87-2V0
C975
10NF
V972
BFG31
C978
100NF
R979
1K0
R980
100R
C976
10UF/25V
C977
100NF
R. LEVEL
R984
10R
C980
100NF
C981
100NF
C984
100NF
C985
100NF
C986
22UF
C989
100PF
R982
68R
R983
100R
U962
OM976/1
V973
BAS28
V974
BAS28
R986
4K7
R987
4K7
R988
4K7
V962
BAV99
R. IN2
X314
C962
10UF
R407
100R
R985
75R
R967
4K7
V965
BSV52
V966
BAS16
R968
10R
C964
100NF
R966
4K7
V967
BAS29
C970
100NF
C966
100NF
V968
BC858
C969
100NF
R. GAIN
R971
4K7
C967
100NF
R972
10R
C968
100NF
R975
1K1


4
5
6
7
8
BLUE CHANNEL
R324 10R
B. LEVEL
C320 100NF
C321 100NF
R316 100R
C319 100NF
V311 BFG97
R317 10R
R318 10R
V312 BFG31
C318 100NF
R319 1K0
R320 100R
-12
+12
C324 100NF
C325 100NF
C326 22UF
+77
C329 100PF
R322 68R
R323 100R
U302
OM976/1
B. OUT
X309
GND
V313 BAS28
V314 BAS28
R326 4K7
R328 4K7
R327 4K7
VIDEO AMPLIFIER
GREEN CHANNEL
R354 10R
G-LEVEL
C350 100NF
C351 100NF
R346 100R
C349 100NF
V341 BFG97
R347 10R
R348 10R
V342 BFG31
C348 100NF
R349 1K0
R350 100R
C347 100NF
C354 100NF
C355 100NF
C356 22UF
C359 100PF
R352 68R
R359 100R
U332
OM976/1
G-OUT
X310
V348 BAS28
V344 BAS28
R356 4K7
R357 4K7
R358 4K7
VIDEO AMPLIFIER
RED CHANNEL
R384 10R
R. LEVEL
C380 100NF
C381 100NF
R376 100R
C379 100NF
V370 BFG97
R377 10R
R378 10R
V371
V372 BFG31
C378 100NF
R379 1K0
R380 100R
C377 100NF
C384 100NF
C385 100NF
C386 22UF
C383 100PF
R382 68R
R383 100R
U362
OM976/1
R. OUT
X311
V373 BAS28
V374 BAS28
R386 4K7
R387 4K7
R388 4K7
VIDEO AMPLIFIER
EN2
H-H+V-S
B. LEVEL
R. GAIN
B. GAIN
-12
+12
+5
V-S
CLAMP
R. LEVEL
G-LEVEL
G-GAIN
+77
V397 BAS16
V396 BAS16
X301
20 EN2
19 GND
18 H-H+V-S
17 GND
16 B. LEVEL
15 R. GAIN
14 B. GAIN
13 -12
12 +12V
11 +77
9 V-S
8 CLAMP
7 R. LEVEL
6 G-LEVEL
5 G-GAIN
4 GND
3 +5
2 +77
1 +77
U391 74HCT03
C395 100NF
U392 74HCT03
C396 100NF
EN1
R414 10K
V375 BC846
GREEN
V391 BAV99
R394 4K7
R395 1K0
R396 1K0
GND X307
H-H+V X307
R411 4K7
C388 10PF
R393 270R
V392 BAV99
R399 4K7
H1 X301
R400 4K7
R413 270R
C390 10PF
V393 BAV99
R401 4K7
GND X308
V X308
R410 4K7
R402 270R
C401 22PF
V394 BAV99
V1 X302
R403 4K7
R412 270R
C400 22PF
GND X302
SYN


5
6
7
8
9
EN2
20 X301 EN2
19 X301 GND
H-H+V-S
18 X301 H-H+V-S
17 X301 GND
B. LEVEL
16 X301 B. LEVEL
R. GAIN
15 X301 R. GAIN
B. GAIN
14 X301 B. GAIN
-12
13 X301 -12
+12
V397 BAS16
12 X301 +12V
V396 BAS16
11 X301 +77
+5
V-S
9 X301 V-S
CLAMP
8 X301 CLAMP
R. LEVEL
7 X301 R. LEVEL
G-LEVEL
6 X301 G-LEVEL
G-GAIN
5 X301 G-GAIN
4 X301 GND
+5
3 X301 +5
2 X301 +77
+77
1 X301 +77
B. OUT
GND
G-OUT
GND
X311 R. OUT
X311 GND
+5
U391 74HCT03
C395 100NF
U392 74HCT03
C396 100NF
U393 LM1881M
C392 100NF
C387 47UF
EN1
EN2
R414 10K
V375 BC846
U393 LM1881M
C393 100NF
GREEN
R391 150R
C391 100NF
S. OUT
OUT
V. IN
RSET
V. O.
B. O.
R392 100K
+5
V391 BAV99
R394 4K7
R395 1K0
R396 1K0
V395 BAV99
R397 1K0
R398 1K0
+12
GND X307
H-H+V X307
GND X307
GND X307
R411 4K7
C388 10PF
R399 270R
EN1
74HCT03 U392
74HCT03 U391
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C394 15NF
R404 220K
74HCT03 U391
74HCT03 U392
U394 LM3930
R423 2K2
R422 15K
R419 2K2
R418 20K
R424 68K
V392 BAV99
R393 4K7
EN2
74HCT03 U391
H1 X301
R408 4K7
270R R413
C398 10PF
R420 120K
LM3930 U394
R421 3K9
1UF0 C403
+12
V393 BAV99
R401 4K7
74HCT03 U391
H-H+V-S
GND X300
V X300
GND X300
GND X300
R410 4K7
R402 270R
EN1
74HCT03 U392
C401 22PF
V-S
V394 BAV99
EN2
74HCT03 U392
V1 X302
R409 4K7
R412 270R
GND X302
C400 22PF
L
I
H
G
F
E
D
C
B
A

SYNC. SELECTION AND IDENTIFICATION

94-02-04 CG
C28/21" DAS/BR 94
PCB VIDEO AMPL.
3119 208 6367
1
1 94-09-21
203 3564
GIAMPIERI
1 130 - 1
AM FINI S. R. L. - MILANO - FABB. SARONNO - ITALY
DATE 94-02-04
FORM. A3

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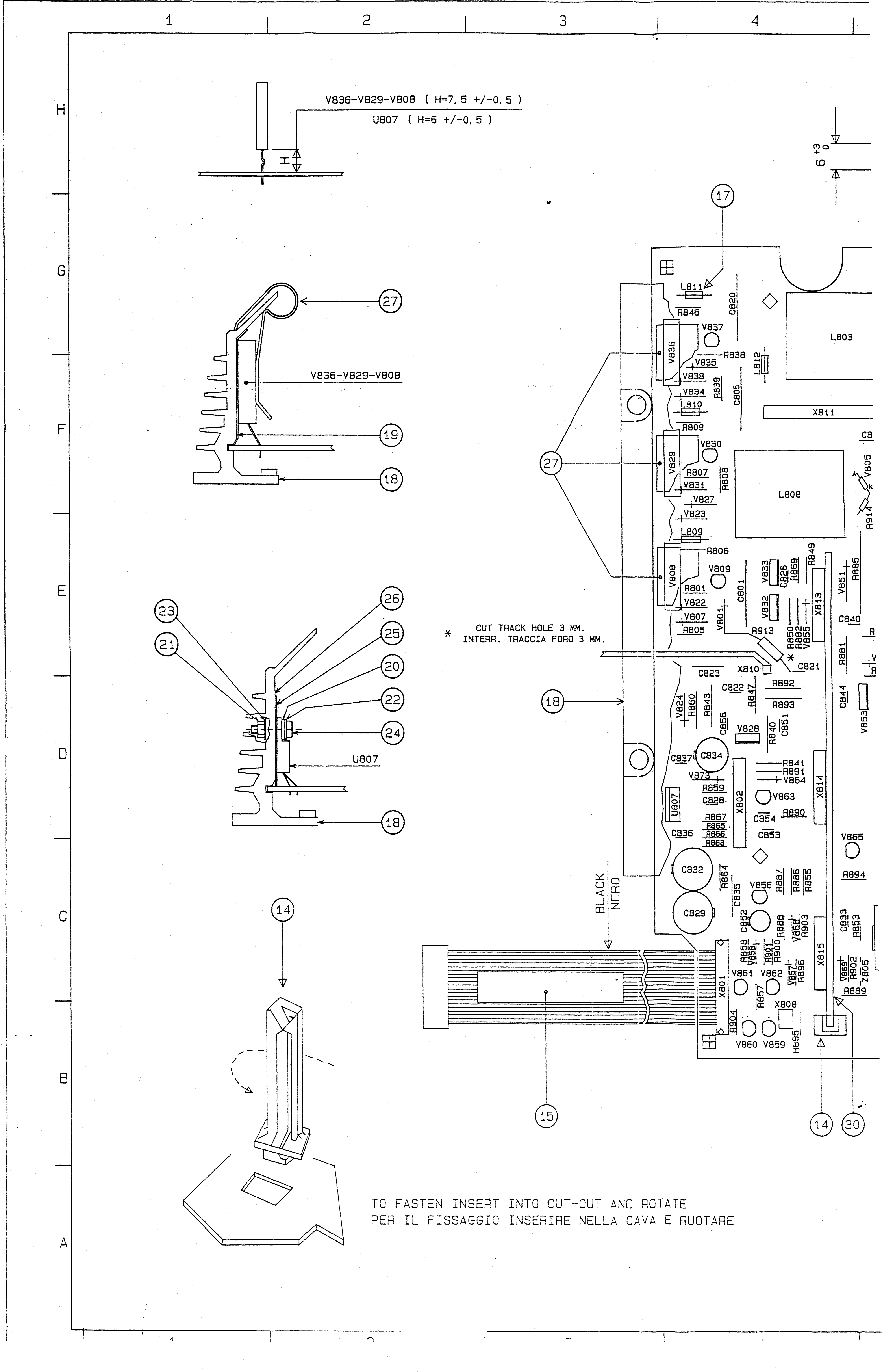
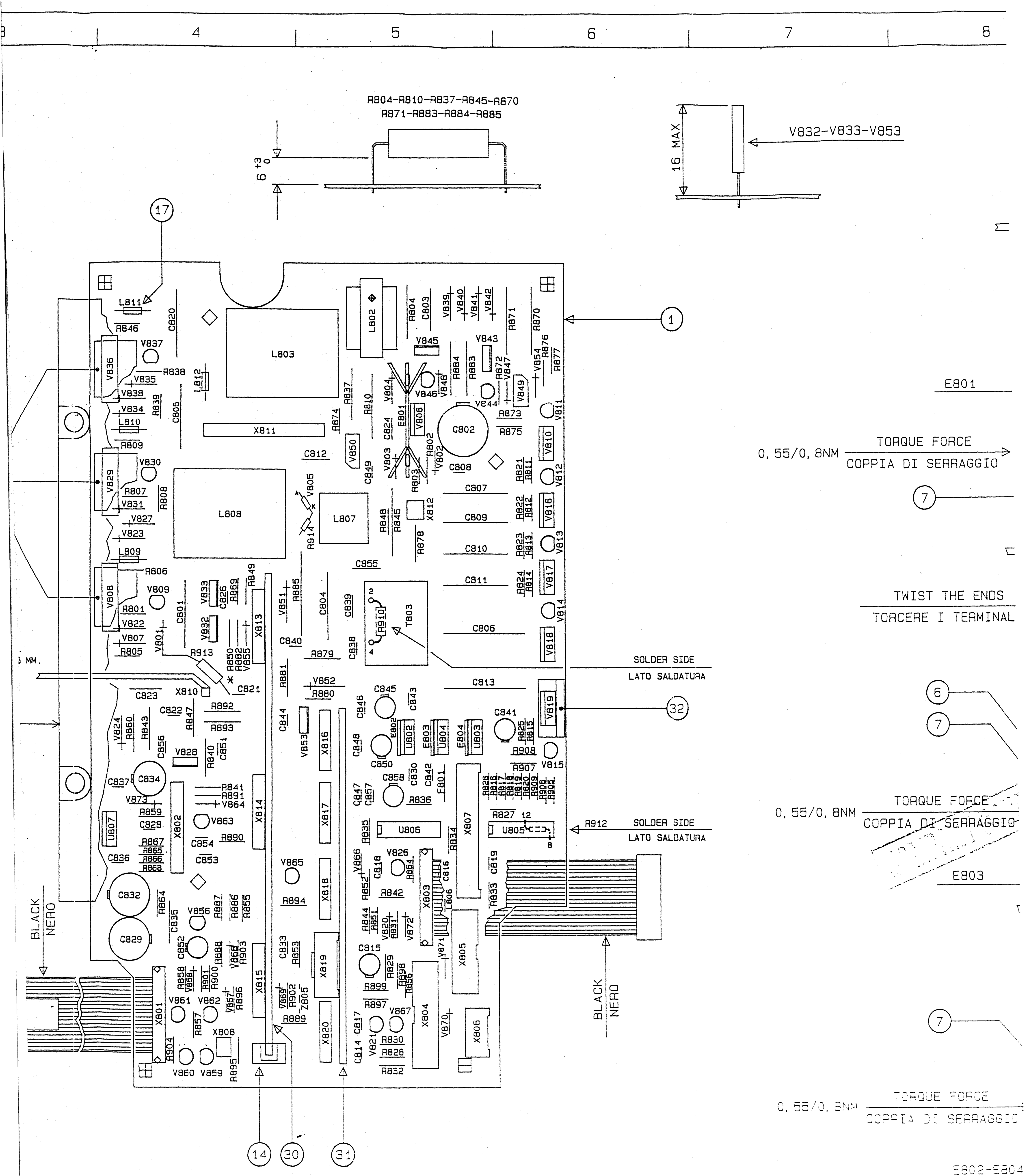

1
2
3
4
H
G
F
E
D
C
B
A
V836-V829-V808 (H=7,5 +/-0,5)
U807 (H=6 +/-0,5)
H
6 +3 0
V836-V829-V808
U807
27
19
18
23
21
26
25
20
22
24
17
14
15
30
BLACK
NERO
L811
R846
C820
V837
V836
R838
V835
V838
L812
R839
V834
L810
C805
L803
X811
R809
V830
V829
R807
V831
R808
L808
V827
V823
L809
R806
V808
V809
R801
V822
V807
R805
C801
V833
C826
R869
R849
V832
V801
R913
X813
R850
R882
V855
R885
V851
C840
C8
V805
R914
X810
C821
C823
C822
R847
R892
R893
V824
R860
R843
C856
V828
R840
C851
R881
C844
V853
C837
C834
V873
R841
R891
V864
R859
C828
X802
V863
X814
U807
R867
R865
R866
R868
C854
R890
C836
C853
V865
C832
R864
C835
V856
R887
R886
R855
R894
C829
C852
R888
V868
R903
C833
R853
R858
V858
R901
R900
X815
V857
R896
V869
R902
Z605
R889
V861
V862
X801
R857
X808
R904
R895
V860
V859

* CUT TRACK HOLE 3 MM.
INTERR. TRACCIA FORO 3 MM.

TO FASTEN INSERT INTO CUT-OUT AND ROTATE
PER IL FISSAGGIO INSERIRE NELLA CAVA E RUOTARE



3
4
5
6
7
8
R804-R810-R837-R845-R870
R871-R883-R884-R885
6 +3 0
V832-V833-V853
16 MAX
17
1
32
14
30
31
E801
0,55/0,8NM
TORQUE FORCE
COPPIA DI SERRAGGIO
7
TWIST THE ENDS
TORCERE I TERMINAL
SOLDER SIDE
LATO SALDATURA
6
7
0,55/0,8NM
TORQUE FORCE
COPPIA DI SERRAGGIO
E803
7
0,55/0,8NM
TORQUE FORCE
COPPIA DI SERRAGGIO
E802-E804
BLACK
NERO
BLACK
NERO
MM.
L811
R846
V837
V836
R838
V835
V838
V834
L810
R809
V829
V830
R807
V831
V827
V823
L809
R806
V808
V809
R801
V822
V807
R805
C820
L812
C805
R839
R808
L803
X811
L808
C801
V833
C826
R869
R849
V832
X813
V801
R913
R850
R882
V855
R823
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C821
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V828
R840
C851
C837
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V873
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R867
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X808
R904
V860
V859
R895
L802
R804
C803
V839
V840
V841
V842
R871
R870
V845
V843
R876
R877
V854
R884
R883
R872
V847
V849
V804
V848
V846
V844
R837
R810
R874
C824
E801
V806
C802
R873
R875
V811
V810
C812
V850
V803
R802
V802
C808
R821
R811
V812
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R803
V805
L807
X812
C807
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R845
C809
R822
R812
V816
R914
R878
C810
R823
R813
V813
C855
C811
R824
R814
V817
V851
R885
C804
C839
R910
T803
V814
C806
C840
R879
C838
V818
R881
V852
R880
C813
C845
C843
C846
C841
V819
C844
V853
X816
C848
E802
U802
E803
U804
E804
U803
R825
R815
C850
R908
V815
C858
C830
C842
F801
R907
C847
C857
R836
R826
R816
R817
R818
R820
R819
R909
R906
R905
X817
R835
U806
R834
X807
R827
12
U805
R912
8
V865
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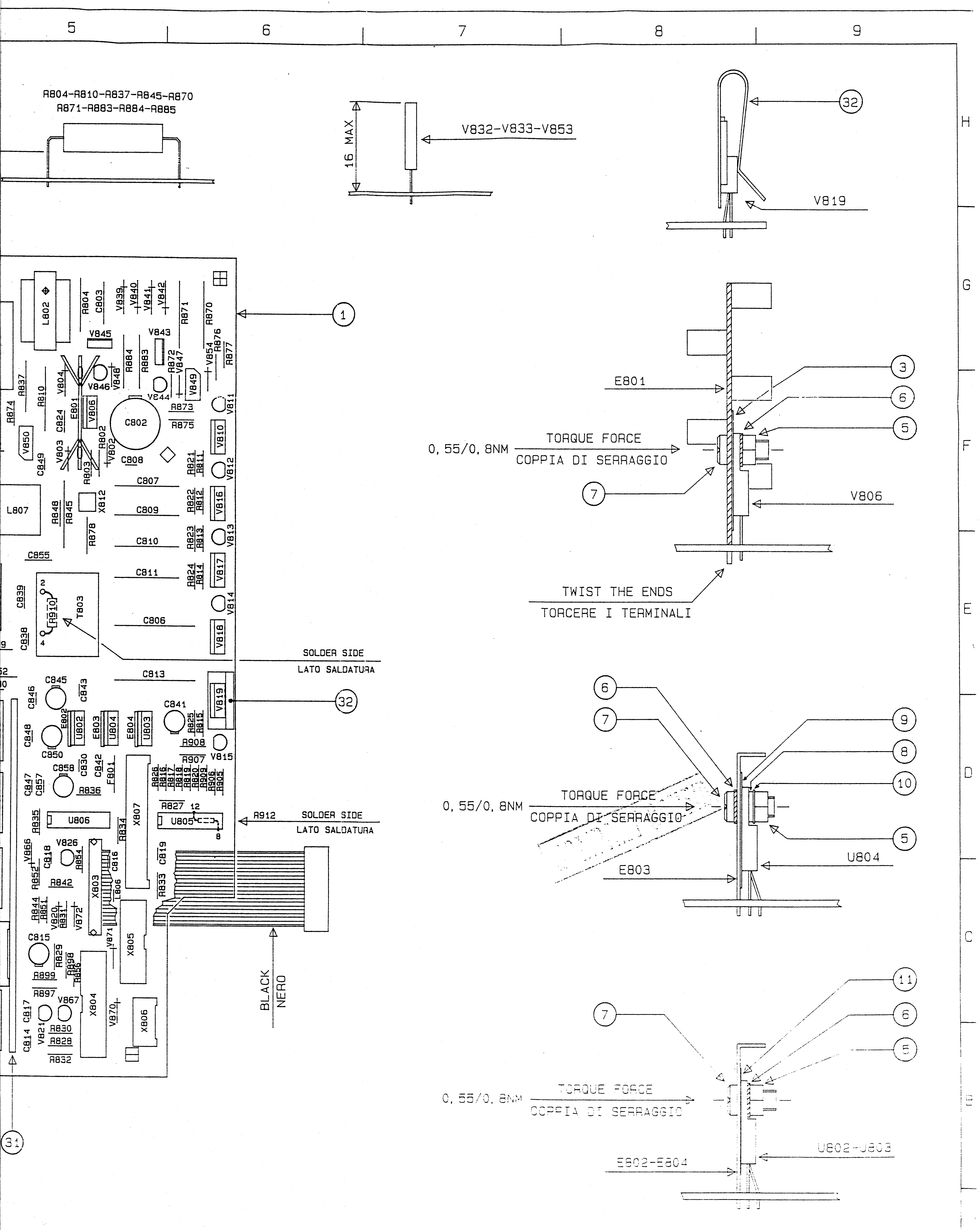
V826
R852
C818
R854
C816
C819
R894
X818
R842
X803
L806
R833
R844
R851
V820
R831
V872
C833
R853
X819
C815
R829
R898
R856
V871
X805
R899
V869
R902
Z805
R897
V867
R889
C817
X820
C814
V821
R830
R828
X804
V870
X806
R832

AND ROTATE
LA CAVA E RUOTARE

VENDOR SHALL CERTIFY COMPLIANCE WITH THE
ENVIRONMENTAL REQUIREMENTS ACCORDING TO
RULE : UAN-D1783

IL FORNITORE DEVE CERTIFICARE QUANTO
PREVISTO DALLA NORMA: UAN-D1783

CLASS NO. 3119 203 3578	C2082DAS MAIN BOARD ASSY
NAME A. VILLA	SUPERS.
AN PROPERTY OF	FIMI S.R.L - MILANO - FABB. SARONN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G
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C
B
A
R804-R810-R837-R845-R870
R871-R883-R884-R885
16 MAX
V832-V833-V853
32
V819
1
L802
R804
C803
V839
V840
V841
V842
R871
R870
V845
V843
R876
R877
V854
R884
R883
R872
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V848
V846
V844
R837
R810
R873
R875
V811
R874
C824
E801
V806
C802
V850
V803
R802
V802
V810
C849
R803
C808
R821
R811
V812
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L807
R848
R845
X812
C809
R822
R812
V816
R878
C810
R823
R813
V813
C855
C811
R824
R814
V817
V814
C839
R910
T803
C806
C838
V818
SOLDER SIDE
LATO SALDATURA
C813
C845
C843
C846
E802
U802
E803
U804
E804
U803
C841
R825
R815
V815
R908
C848
C850
C858
C830
C842
F801
R907
C847
C857
R836
R826
R816
R817
R818
R819
R820
R909
R906
R905
R835
U806
X807
R827
12
U805
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R912
V866
V826
R834
C819
C818
R854
C816
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X803
L806
R842
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V820
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R833
C815
V871
X805
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R896
R899
R897
V867
X804
V870
X806
C817
C814
V821
R830
R828
R832
BLACK
NERO
31
E801
3
6
5
TORQUE FORCE
0,55/0,8NM
COPPIA DI SERRAGGIO
7
V806
TWIST THE ENDS
TORCERE I TERMINALI
6
7
9
8
10
TORQUE FORCE
0,55/0,8NM
COPPIA DI SERRAGGIO
5
U804
E803
11
7
6
5
TORQUE FORCE
0,55/0,8NM
COPPIA DI SERRAGGIO
U802-U803
E802-E804

VENDOR SHALL CERTIFY COMPLIANCE WITH THE ENVIRONMENTAL REQUIREMENTS ACCORDING TO RULE : UAN-D1783

IL FORNITORE DEVE CERTIFICARE QUANTO PREVISTO DALLA NORMA: UAN-D1783

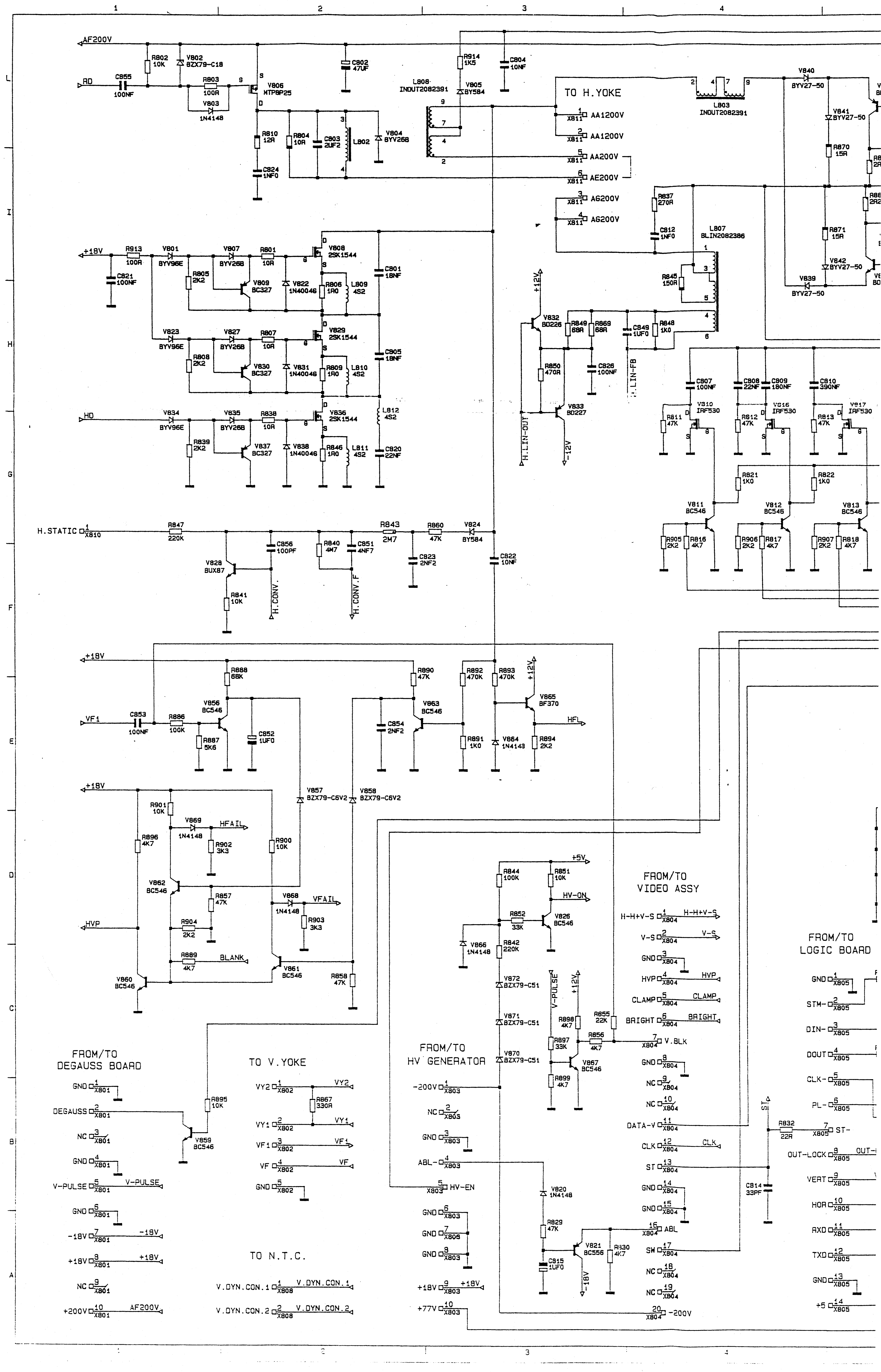
CLASS NO.
3119 203 3578

C2082DAS
MAIN BOARD
ASSY

3119 208 6259

3	93-09-22
3	94-02-16
1	92-10-01
2	92-10-16

NAME A.VILLA
SUPERS.
1 SH.
SH 110 – 1
AN PROPERTY OF FIMI S.R.L - MILANO - FABB. SARONNO - ITALY
CHECK
DATE 91-11-19
FORM. A2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L
I
H
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D
C
B
A
AF200V
R802 10K
V802 BZX79-C18
C802 47UF
R914 1K5
C804 10NF
RD
C855 100NF
R803 100R
V803 1N4148
V806 MTP8P25
S
D
G
V805 BY584
L808 INDUT2082391
R810 12R
C824 1NF0
R804 10R
C803 2UF2
L802
V804 BYV26B
TO H.YOKE
X811 AA1200V
X811 AA1200V
X811 AA200V
X811 AE200V
X811 A6200V
X811 A6200V
L803 INDUT2082391
V840 BYV27-50
V841 BYV27-50
R870 15R
R837 270R
C812 1NF0
L807 BLIN2082386
R871 15R
V842 BYV27-50
V839 BYV27-50
R845 150R
+18V
R913 100R
C821 100NF
V801 BYV96E
R805 2K2
V807 BYV26B
R801 10R
V808 2SK1544
V809 BC327
V822 1N40046
R806 1R0
L809 4S2
C801 18NF
V823 BYV96E
V827 BYV26B
R807 10R
V829 2SK1544
R808 2K2
V830 BC327
V831 1N40046
R809 1R0
L810 4S2
C805 18NF
HD
V834 BYV96E
V835 BYV26B
R838 10R
V836 2SK1544
R839 2K2
V837 BC327
V838 1N40046
R846 1R0
L811 4S2
L812 4S2
C820 22NF
+12V
V832 BD226
R849 68R
R869 68R
C849 1UF0
R848 1K0
R850 470R
C826 100NF
H.LIN-FB
V833 BD227
H.LIN-OUT
-12V
C807 100NF
C808 22NF
C809 180NF
C810 390NF
V810 IRF530
V816 IRF530
V817 IRF530
R811 47K
R812 47K
R813 47K
R821 1K0
R822 1K0
V811 BC546
V812 BC546
V813 BC546
R905 2K2
R816 4K7
R906 2K2
R817 4K7
R907 2K2
R818 4K7
H.STATIC X810
R847 220K
V828 BUX87
R841 10K
C856 100PF
H.CONV.
R840 4M7
C851 4NF7
H.CONV.F
R843 2M7
R860 47K
V824 BY584
C823 2NF2
C822 10NF
+18V
R888 68K
R890 47K
R892 470K
R893 470K
+12V
V865 BF370
VF1
C853 100NF
R886 100K
R887 5K6
V856 BC546
C852 1UF0
C854 2NF2
V863 BC546
R891 1K0
V864 1N4143
R894 2K2
HFL
+18V
V857 BZX79-C6V2
V858 BZX79-C6V2
R901 10K
V869 1N4148
HFAIL
R902 3K3
R896 4K7
R900 10K
V862 BC546
R857 47K
V868 1N4148
VFAIL
R903 3K3
HVP
R904 2K2
R889 4K7
BLANK
V861 BC546
R858 47K
V860 BC546
+5V
R844 100K
R851 10K
HV-ON
R852 33K
V826 BC546
V866 1N4148
R842 220K
V872 BZX79-C51
V871 BZX79-C51
V870 BZX79-C51
V-PULSE
+12V
R898 4K7
R855 22K
R856 4K7
R897 33K
V867 BC546
R899 4K7
FROM/TO VIDEO ASSY
H-H+V-S X804 H-H+V-S
V-S X804 V-S
GND X804
HVP X804 HVP
CLAMP X804 CLAMP
BRIGHT X804 BRIGHT
X804 V.BLK
GND X804
NC X804
NC X804
DATA-V X804
CLK X804 CLK
ST X804
GND X804
GND X804
X804 ABL
SW X804
NC X804
NC X804
X804 -200V
FROM/TO LOGIC BOARD
GND X805
STM- X805
DIN- X805
DOUT X805
CLK- X805
PL- X805
ST
R832 22R
X805 ST-
OUT-LOCK X805 OUT-
C814 33PF
VERT X805
HOR X805
RXD X805
TXD X805
GND X805
+5 X805
FROM/TO DEGAUSS BOARD
GND X801
DEGAUSS X801
NC X801
GND X801
V-PULSE X801 V-PULSE
GND X801
-18V X801 -18V
+18V X801 +18V
NC X801
+200V X801 AF200V
R895 10K
V859 BC546
TO V.YOKE
VY2 X802 VY2
R867 330R
VY1 X802 VY1
VF1 X802 VF1
VF X802 VF
GND X802
TO N.T.C.
V.DYN.CON.1 X808 V.DYN.CON.1
V.DYN.CON.2 X808 V.DYN.CON.2
FROM/TO HV GENERATOR
-200V X803
NC X803
GND X803
ABL- X803
X803 HV-EN
GND X803
GND X803
GND X803
+18V X803 +18V
+77V X803
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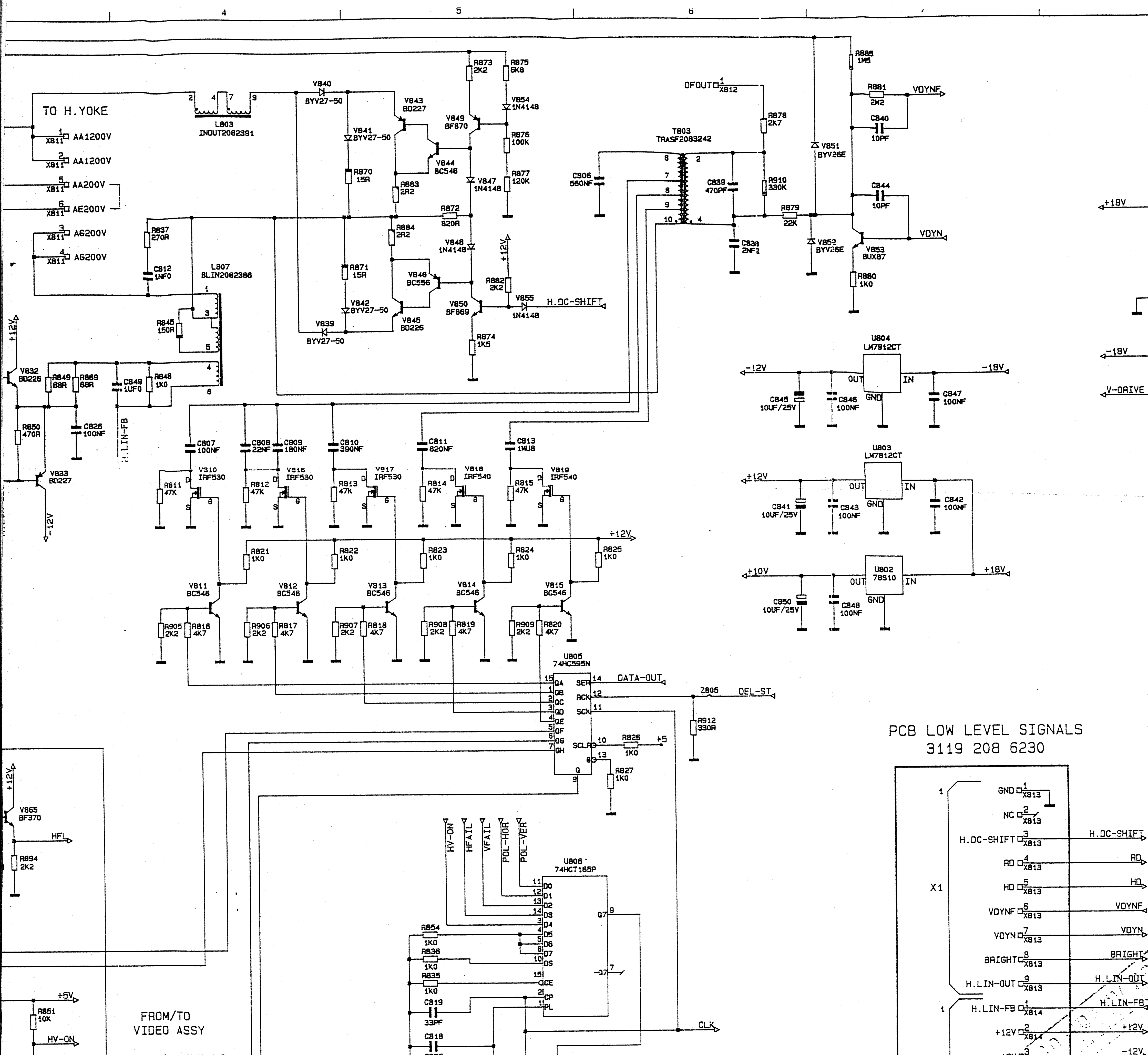
V821 BC556
R830 4K7
-18V



PCB LOW LEVEL SIGNALS
3119 208 6230

4
5
6
TO H.YOKE
X811 AA1200V
X811 AA1200V
X811 AA200V
X811 AE200V
X811 AG200V
X811 AG200V
L803 INDUT2082391
V840 BYV27-50
V841 BYV27-50
V842 BYV27-50
V839 BYV27-50
R870 15R
R871 15R
V843 BD227
V844 BC546
V845 BD226
V846 BC556
R883 2R2
R884 2R2
R872 820R
R873 2K2
R875 6K8
V849 BF870
V854 1N4148
R876 100K
R877 120K
V847 1N4148
V848 1N4148
R882 2K2
V850 BF869
V855 1N4148
H.DC-SHIFT
R874 1K5
+12V
R837 270R
C812 1NF0
L807 BLIN2082386
R845 150R
V832 BD226
R849 68R
R869 68R
C849 1UF0
R848 1K0
R850 470R
C826 100NF
V833 BD227
-12V
H.LIN-FB
DFOUT X812
T803 TRASF2083242
C806 560NF
R878 2K7
C839 470PF
R910 330K
R879 22K
C838 2NF2
R885 1M5
R881 2M2
VDYNF
C840 10PF
V851 BYV26E
C844 10PF
V852 BYV26E
V853 BUX87
VDYN
R880 1K0
+18V
-18V
V-DRIVE
C807 100NF
C808 22NF
C809 180NF
C810 390NF
C811 820NF
C813 1MU8
V810 IRF530
V816 IRF530
V817 IRF530
V818 IRF540
V819 IRF540
R811 47K
R812 47K
R813 47K
R814 47K
R815 47K
R821 1K0
R822 1K0
R823 1K0
R824 1K0
R825 1K0
V811 BC546
V812 BC546
V813 BC546
V814 BC546
V815 BC546
R905 2K2
R816 4K7
R906 2K2
R817 4K7
R907 2K2
R818 4K7
R908 2K2
R819 4K7
R909 2K2
R820 4K7
U804 LM7912CT
C845 10UF/25V
C846 100NF
C847 100NF
U803 LM7812CT
C841 10UF/25V
C843 100NF
C842 100NF
+10V
U802 78S10
C850 10UF/25V
C848 100NF
U805 74HC595N
DATA-OUT
Z805
DEL-ST
R912 330R
R826 1K0
+5
R827 1K0
V865 BF370
HFL
R894 2K2
HV-ON
HFAIL
VFAIL
POL-HOR
POL-VER
U806 74HCT165P
R854 1K0
R836 1K0
R835 1K0
C819 33PF
C818 33PF
CLK
R851 10K
V826 BC546
FROM/TO VIDEO ASSY
H-H+V-S X804
V-S X804
GND X804
HVP X804
CLAMP X804
BRIGHT X804
V.BLK
NC X804
DATA-V X804
CLK X804
ST X804
ABL
SW X804
-200V
V-PULSE
R898 4K7
R897 33K
R899 4K7
R855 22K
R856 4K7
V867 BC546
V820 1N4148
R829 47K
C815 1UF0
V821 BC556
R830 4K7
-18V
FROM/TO LOGIC BOARD
GND X805
STM X805
R853 22R
C833 33PF
DIN X805
DOUT X805
R828 22R
DATA-IN
C817 33PF
CLK X805
PL X805
R831 22R
R833 22R
R834 22R
C816 33PF
ST
R832 22R
C814 33PF
OUT-LOCK X805
VERT X805
HOR X805
RXD X805
TXD X805
GND X805
+5 X805
SERVICE CONNETOR
X806 GND
X806 TXD
X806 RXD
X806 +5
FROM/TO SMPS BOARD
+5V X807
L806 10UH
C858 10UF
C857 100NF
GND X807
+7V X807
-18V X807
+18V X807
+77V X807
C930 100NF
F801 1A
+77V
+200V X807
AF200V
X1
X2
X3
GND X813
NC X813
H.DC-SHIFT X813
RD X813
HD X813
VDYNF X813
VDYN X813
BRIGHT X813
H.LIN-OUT X813
H.LIN-FB X814
+12V X814
-12V X814
H.CONV.F X814
V-SYNC X814
H-DRIVE X814
H-PHASE X814
STM X814
NC X814
CLK X815
H.CONV. X815
DATA-IN X815
+5V X815
GND X815
V-DRIVE X815
V-PULSE X815
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V.DYN.CON.2 X815
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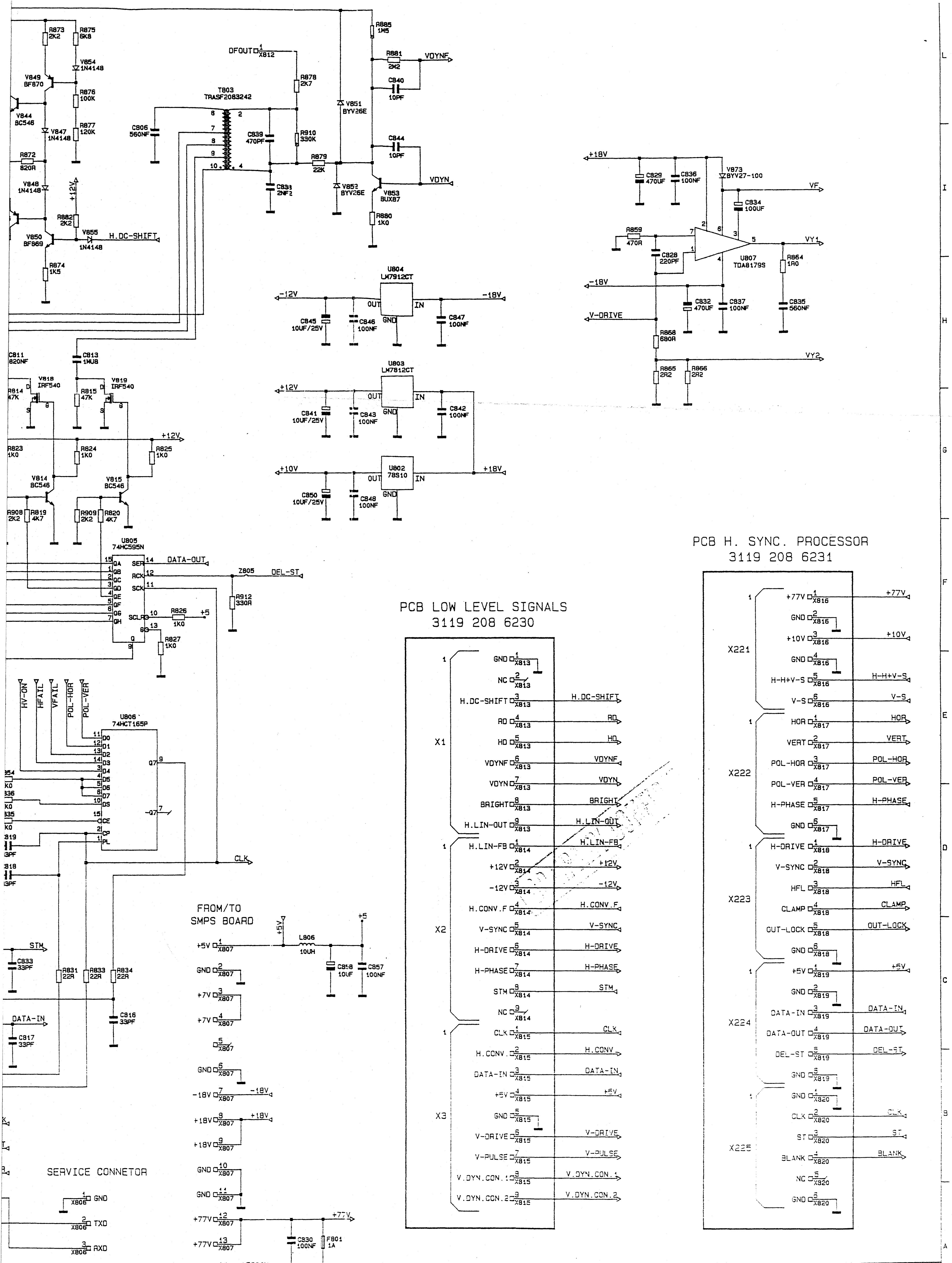
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R872 820R
V848 1N4148
+12V
R882 2K2
V855 1N4148
H.DC-SHIFT
V850 BF869
R874 1K5
DFOUT X812
T803 TRASF2083242
C806 560NF
C839 470PF
R878 2K7
R910 330K
R879 22K
C831 2NF2
R885 1M5
R881 2M2
VDYNF
C840 10PF
V851 BYV26E
V852 BYV26E
C844 10PF
V853 BUX87
VDYN
R880 1K0
U804 LM7912CT
-12V
-18V
C845 10UF/25V
C846 100NF
C847 100NF
U803 LM7812CT
+12V
C841 10UF/25V
C843 100NF
C842 100NF
U802 78S10
+10V
+18V
C850 10UF/25V
C848 100NF
C811 820NF
C813 1MU8
V818 IRF540
V819 IRF540
R814 47K
R815 47K
R823 1K0
R824 1K0
R825 1K0
V814 BC546
V815 BC546
R908 2K2
R819 4K7
R909 2K2
R820 4K7
U805 74HC595N
DATA-OUT
Z805
DEL-ST
R912 330R
R826 1K0
+5
R827 1K0
HV-ON
HFAIL
VFAIL
POL-HOR
POL-VER
U806 74HCT165P
CLK
STM
C833 33PF
R831 22R
R833 22R
R834 22R
C816 33PF
DATA-IN
C817 33PF
+18V
C829 470UF
C836 100NF
V873 BYV27-100
VF
C834 100UF
R859 470R
C828 220PF
U807 TDA8179S
VY1
R864 1R0
-18V
C832 470UF
C837 100NF
C835 560NF
V-DRIVE
R868 680R
VY2
R865 2R2
R866 2R2
FROM/TO SMPS BOARD
+5V X807
L806 10UH
C858 10UF
C857 100NF
GND X807
+7V X807
-18V X807
+18V X807
+77V X807
C830 100NF
F801 1A
+200V X807
AF200V
SERVICE CONNETOR
X806 GND
X806 TXD
X806 RXD
+5 X806 +5
PCB LOW LEVEL SIGNALS
3119 208 6230
X1
X2
X3
GND X813
NC X813
H.DC-SHIFT X813
RD X813
HD X813
VDYNF X813
VDYN X813
BRIGHT X813
H.LIN-OUT X813
H.LIN-FB X814
+12V X814
-12V X814
H.CONV.F X814
V-SYNC X814
H-DRIVE X814
H-PHASE X814
STM X814
NC X814
CLK X815
H.CONV. X815
DATA-IN X815
+5V X815
GND X815
V-DRIVE X815
V-PULSE X815
V.DYN.CON.1 X815
V.DYN.CON.2 X815
PCB H. SYNC. PROCESSOR
3119 208 6231
X221
X222
X223
X224
X225
+77V X816
GND X816
+10V X816
H-H+V-S X816
V-S X816
HOR X817
VERT X817
POL-HOR X817
POL-VER X817
H-PHASE X817
GND X817
H-DRIVE X818
V-SYNC X818
HFL X818
CLAMP X818
OUT-LOCK X818
GND X818
+5V X819
GND X819
DATA-IN X819
DATA-OUT X819
DEL-ST X819
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GND X820
CLK X820
ST X820
BLANK X820
NC X820
GND X820
L
I
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C2082DAS
MAIN BOARD
CIRCUIT DIAGRAM

3119 208 6259

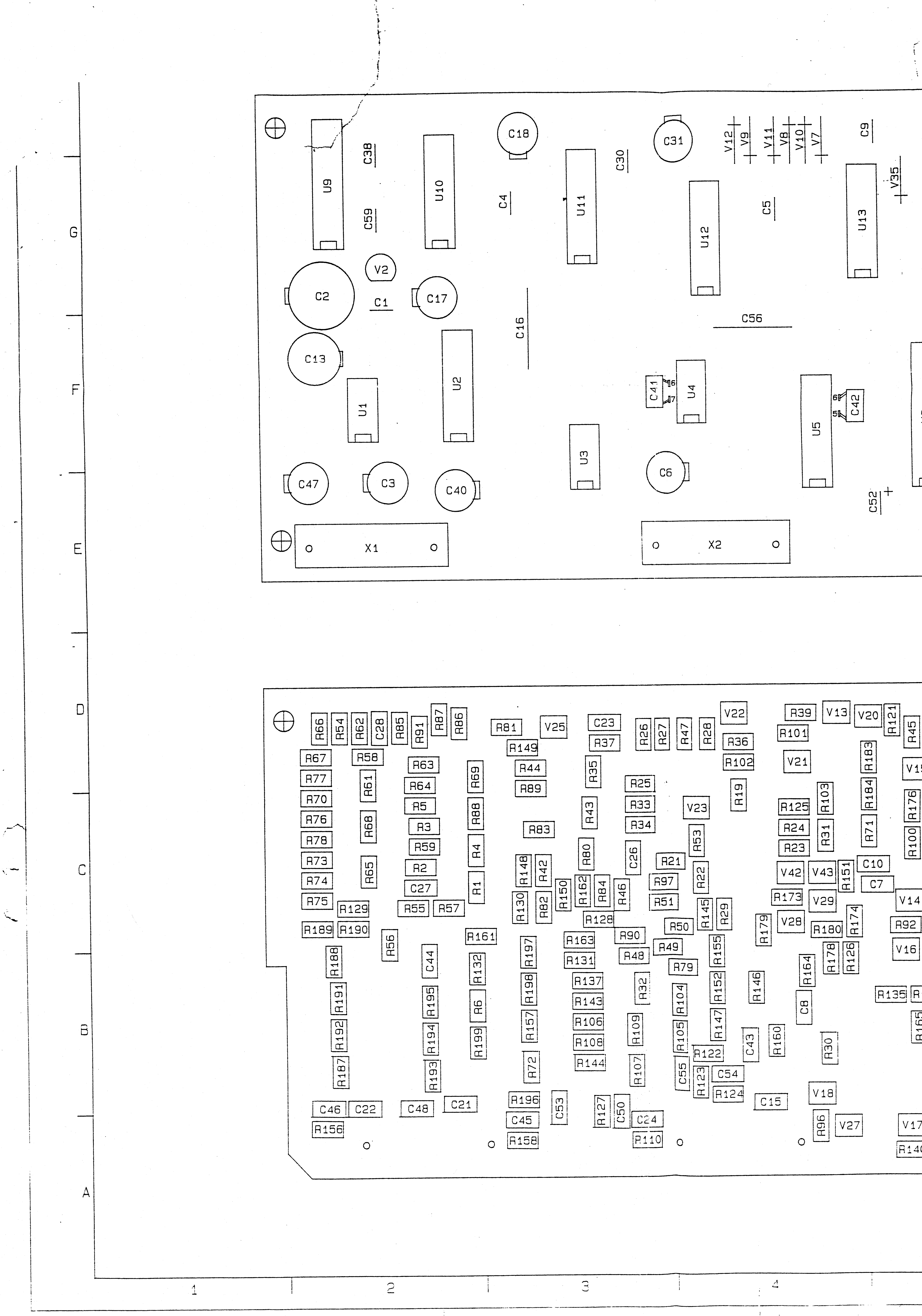
A.VILLA

SH. 130 - 1

FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY

DATE 91-11-18

1	93-06-13
1	93-09-22
1	94-02-16
1	92-10-01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U9
C38
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U10
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C4
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C30
C31
V12
V9
V11
V8
V10
V7
C9
V35
U12
C5
U13
V2
C2
C1
C17
C16
C56
C13
U2
U1
C41
16
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U4
U5
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C6
C47
C3
C40
C52
X1
X2
R66
R54
R62
C28
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R87
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R33
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R71
R100
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R2
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C26
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V43
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C10
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C27
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C7
R75
R129
R55
R57
R130
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R150
R51
R145
R29
R173
V29
V14
R189
R190
R128
R50
R179
V28
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R174
R92
R56
R161
R163
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R155
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C22
C48
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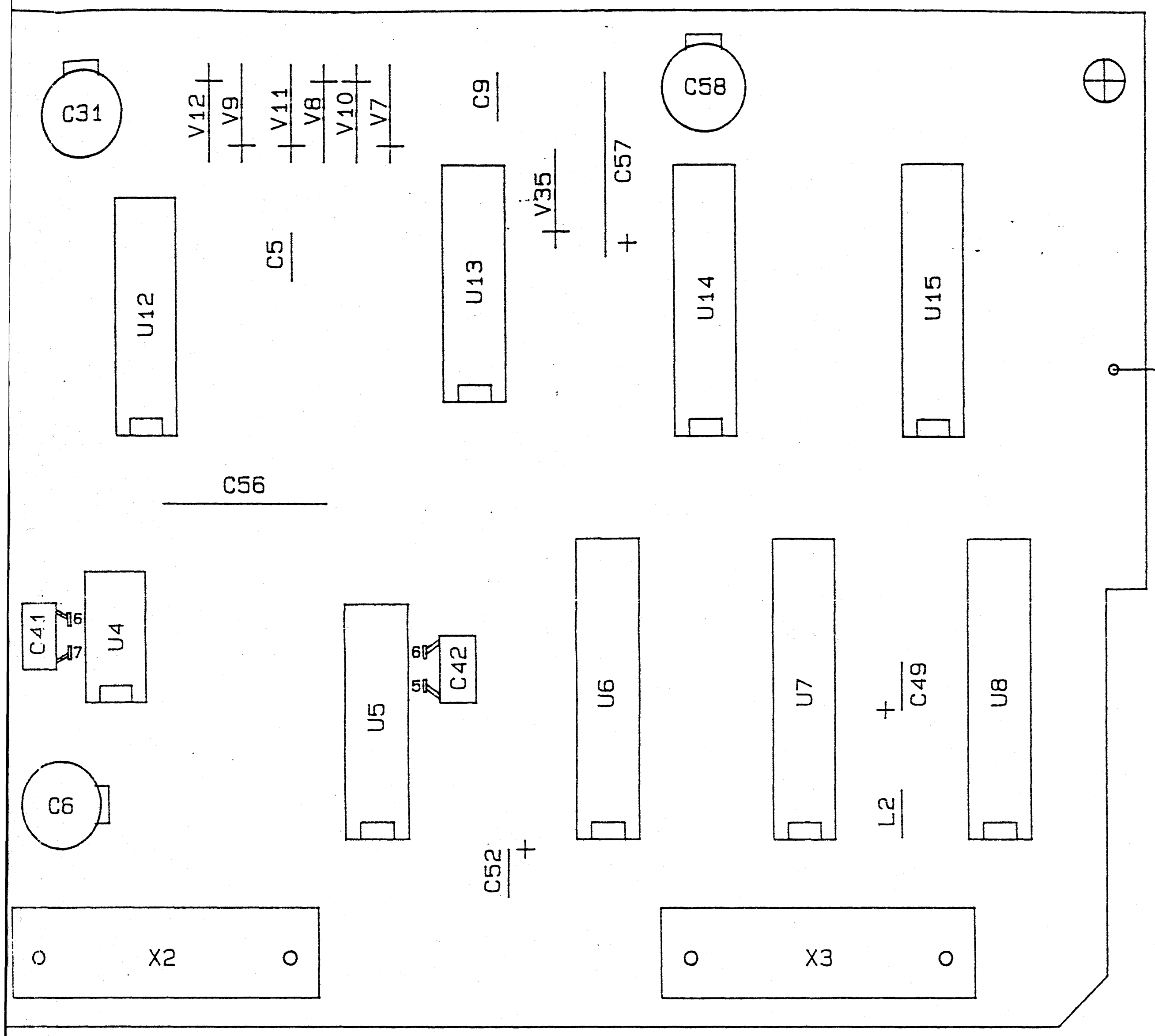
R110
R140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C41
16
17
U4
U5
6
5
C42
U6
U7
C49
U8
C6
L2
C52
X2
X3

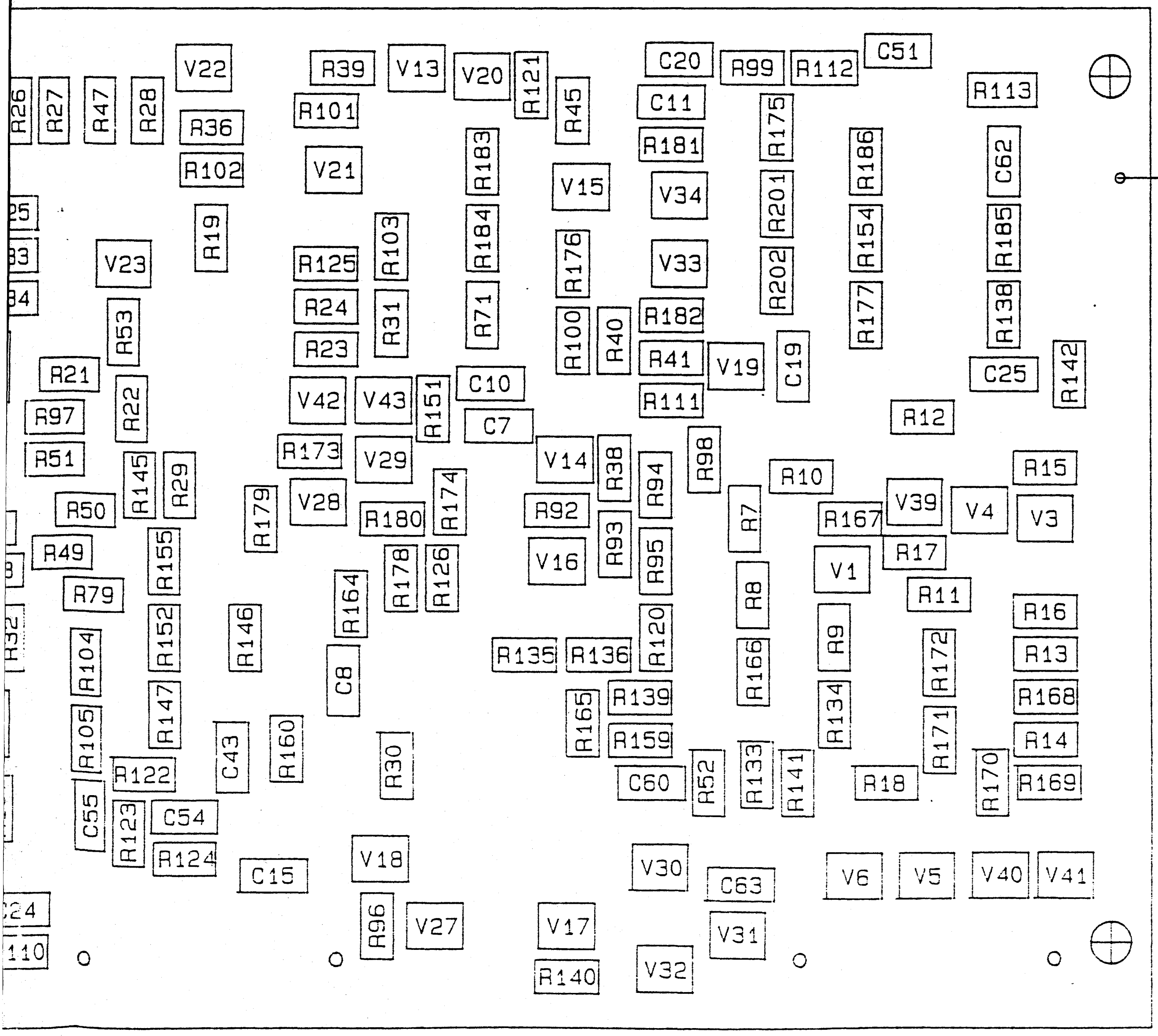
SILKSCREEN SIDE

LATO SERIGRAFIA

VENDOR SHALL CERTIFY COMPL
ENVIRONMENTAL REQUIREMENTS
RULE : UAN-D1783

IL FORNITORE DEVE CERTIFIC
PREVISTO DALLA NORMA: UAN

SOLDER PASTE MASK SOLDER SIDE:
MASCH. PASTA SALD. LATO SALD.: 8219 253 350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V13
V20
R121
V21
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C11
R181
R99
R112
C51
R175
R186
R113
C62
V15
V34
R201
25
33
34
V23
R19
R125
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R176
V33
R154
R185
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R31
R71
R202
R177
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R23
R100
R40
R182
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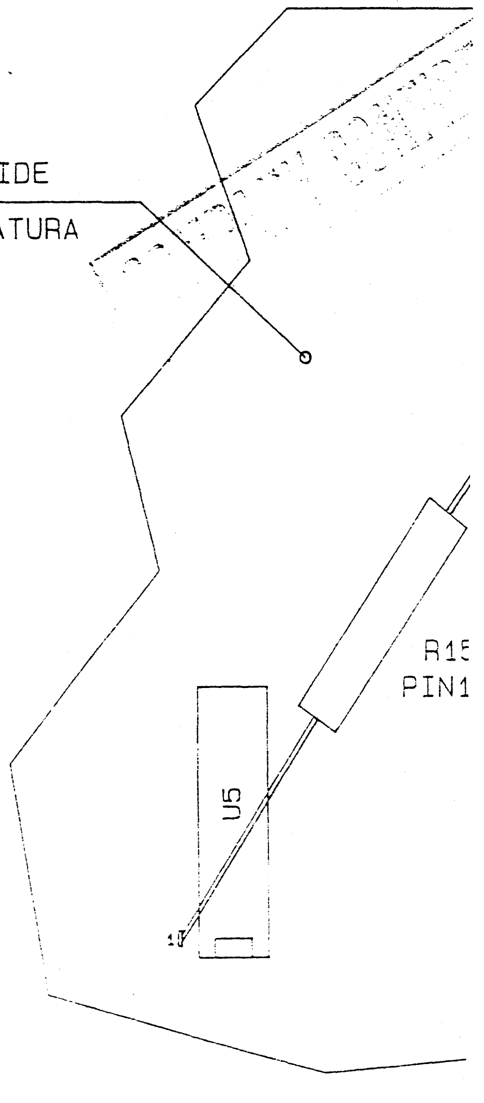
R41
V19
C19
C25
R142
R97
R22
V42
V43
R151
C10
C7
R111
R12
R51
R173
V29
V14
R38
R94
R98
R10
R15
R145
R29
R174
R50
R179
V28
R180
R92
R7
R167
V39
V4
V3
R49
R155
R178
R126
R93
R95
V16
V1
R17
R79
R164
R8
R11
R16
R152
R146
R120
R9
R32
R104
C8
R135
R136
R166
R172
R13
R105
R147
R139
R134
R168
C43
R160
R165
R171
R14
R122
R30
R159
R133
R141
R52
R18
R170
R169
C55
C60
R123
C54
R124
C15
V18
V30
C63
V6
V5
V40
V41
24
R96
V27
V17
V31
110
R140
V32

SOLDER SIDE

LATO SALDATURA


R15
PIN1
U5
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CLASS NO.	C2082DAS LOW LEVEL SIGNALS BOARD ASSY	3
3119 203 3562		
NAME A.VILLA	SUPERS.	1
AN. PROPERTY OF	FIMI S.R.L. - MILANO - FABB. SARONNO	

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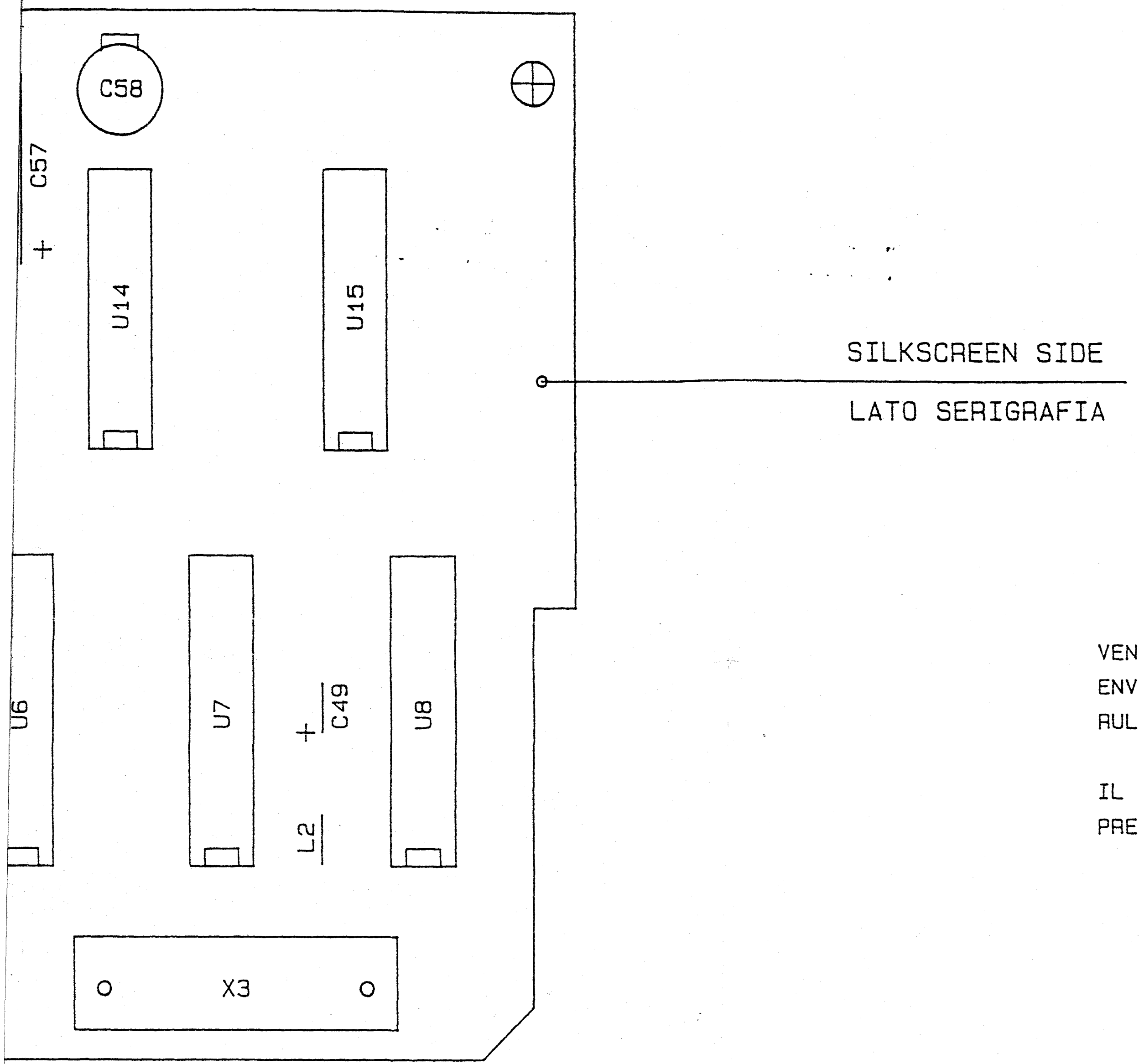
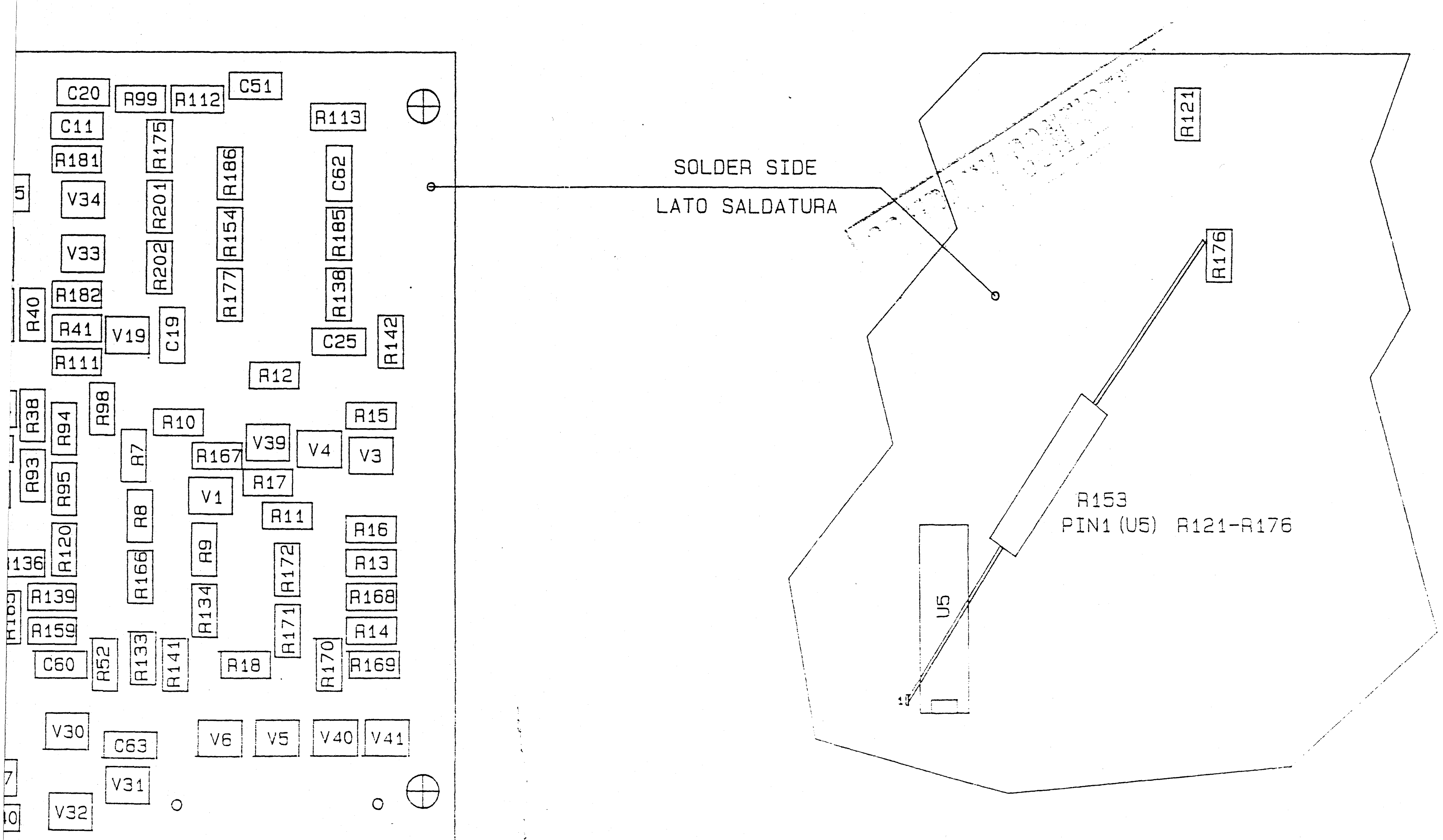

C58
C57
U14
U15
SILKSCREEN SIDE
LATO SERIGRAFIA
U6
U7
C49
U8
L2
X3

VENDOR SHALL CERTIFY COMPLIANCE WITH THE ENVIRONMENTAL REQUIREMENTS ACCORDING TO RULE : UAN-D1783

IL FORNITORE DEVE CERTIFICARE QUANTO PREVISTO DALLA NORMA: UAN-D1783

SOLDER PASTE MASK SOLDER SIDE: 8219 253 3503.1 SEE : SP02

MASCH. PASTA SALD. LATO SALD.: VEDI: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R112
C51
R113
C11
R175
R181
R186
C62
V34
R201
R154
R185
V33
R202
R177
R138
R40
R182
R41
V19
C19
C25
R142
R111
R12
R38
R94
R98
R10
R15
R7
R167
V39
V4
V3
R93
R95
V1
R17
R8
R11
R16
R120
R166
R9
R172
R13
R136
R139
R134
R168
R159
R133
R171
R14
C60
R52
R141
R18
R170
R169
V30
C63
V6
V5
V40
V41
V31
V32
SOLDER SIDE
LATO SALDATURA
R121
R176
R153
PIN1 (U5) R121-R176
U5
1

CLASS NO.	C2082DAS LOW LEVEL SIGNALS BOARD ASSY	3119 208 6230	1	92-02-03
3119 203 3562			1	92-02-25
			1	92-06-02
			1	92-12-11
NAME A.VILLA	SUPERS.	1 SH	SH. 110 — 1	1	93-05-03
AN. PROPERTY OF	FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY	CHECK	DATE 91-08-08	FORM. A2

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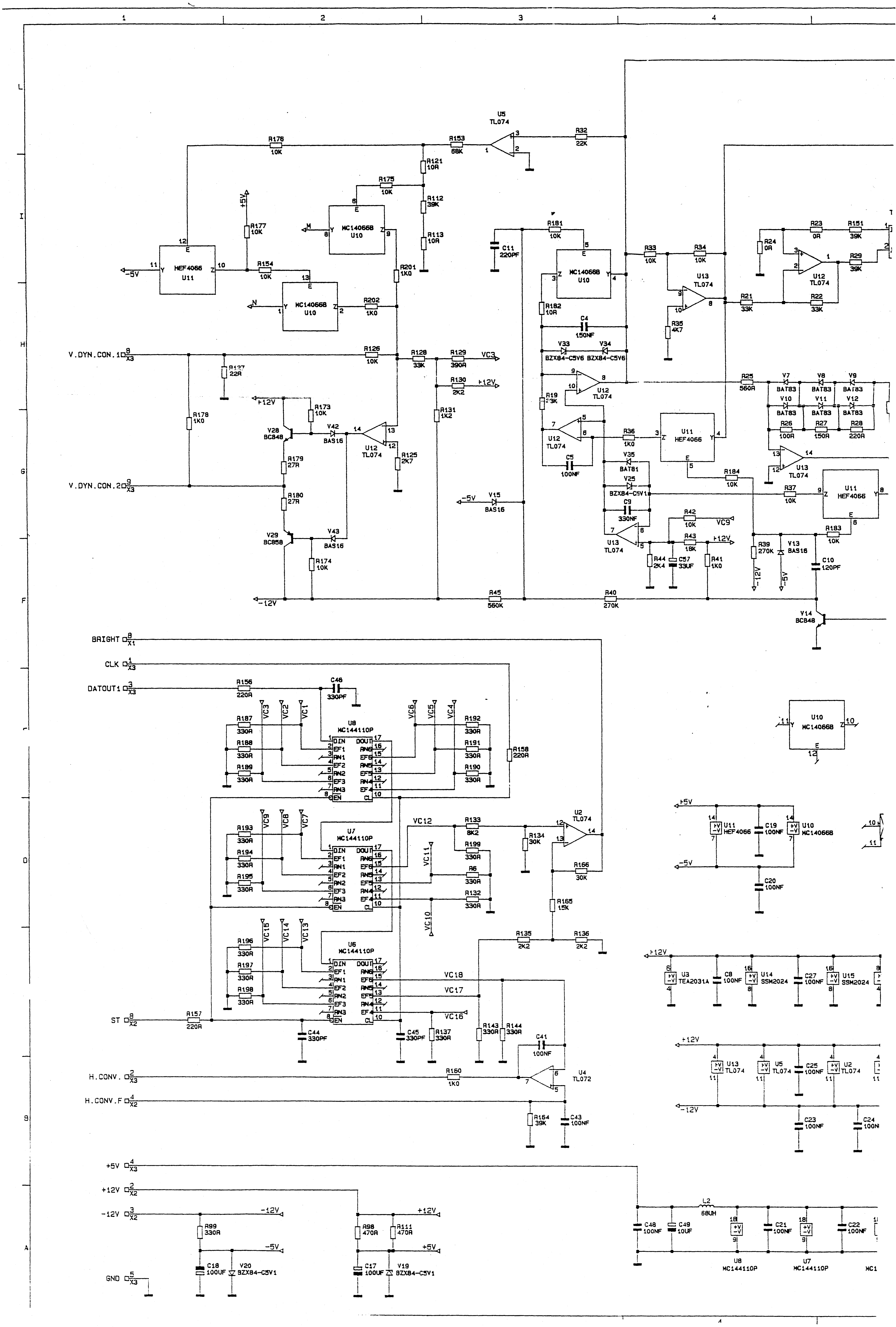
TUTTI I DIRITTI SONO STRETTAMENTE RISERVATI. LA RIPRODUZIONE O LA COMUNICAZIONE A TERZI E VIETATA IN QUALUNQUE FORMA SENZA AUTORIZZAZIONE SCRITTA DELLA PROPRIETARIA.

1
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L
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G
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D
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A
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R153
68K
R32
22K
R121
10R
R175
10K
R112
39K
R113
10R
+5V
R177
10K
M
MC140668
U10
HEF4066
U11
-5V
R154
10K
R201
1K0
N
R202
1K0
R181
10K
C11
220PF
R33
10K
R34
10K
U13
TL074
R35
4K7
R182
10R
C4
150NF
V33
V34
BZX84-C5V6
R23
0R
R151
39K
R24
0R
U12
TL074
R29
39K
R21
33K
R22
33K
V.DYN.CON.1
X3
R137
22R
R126
10K
R128
33K
R129
390R
VC3
R130
2K2
+12V
R131
1K2
R19
2K3
R25
560R
V7
V8
V9
BAT83
V10
V11
V12
R26
100R
R27
150R
R28
220R
R178
1K0
R173
10K
V28
BC848
V42
BAS16
R179
27R
R125
2K7
R36
1K0
C5
100NF
V35
BAT81
V25
BZX84-C5V1
R184
10K
R37
10K
V.DYN.CON.2
R180
27R
V15
BAS16
C9
330NF
R42
10K
VC9
R43
18K
R183
10K
V29
BC858
V43
BAS16
R174
10K
R44
2K4
C57
33UF
R41
1K0
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270K
V13
BAS16
C10
120PF
-12V
R45
560K
R40
270K
V14
BC848
BRIGHT
X1
CLK
DATOUT1
R156
220R
C46
330PF
VC1
VC2
VC4
VC5
VC6
U8
MC144110P
DIN
DOUT
EF1
RN1
EF2
RN2
EF3
RN3
EN
CL
RN6
EF6
RN5
EF5
RN4
EF4
R187
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R188
330R
R189
330R
R192
330R
R191
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R190
330R
R158
220R
U10
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VC7
VC8
U7
VC12
R133
8K2
U2
TL074
R134
30K
R193
330R
R194
330R
R195
330R
R199
330R
VC11
R6
330R
R132
330R
R166
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VC10
R165
15K
+5V
U11
HEF4066
C19
100NF
U10
MC140668
C20
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VC13
VC14
VC15
U6
R196
330R
R197
330R
R198
330R
R135
2K2
R136
2K2
VC18
VC17
VC16
U3
TEA2031A
C8
100NF
U14
SSM2024
C27
100NF
U15
SSM2024
ST
X2
R157
220R
C44
330PF
C45
330PF
R137
330R
R143
330R
R144
330R
C41
100NF
H.CONV.
R160
1K0
U4
TL072
U13
TL074
U5
TL074
C25
100NF
U2
TL074
H.CONV.F
R164
39K
C43
100NF
C23
100NF
C24
100N
+5V
+12V
-12V
GND
R99
330R
C18
100UF
V20
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R98
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R111
470R
C17
100UF
V19
BZX84-C5V1
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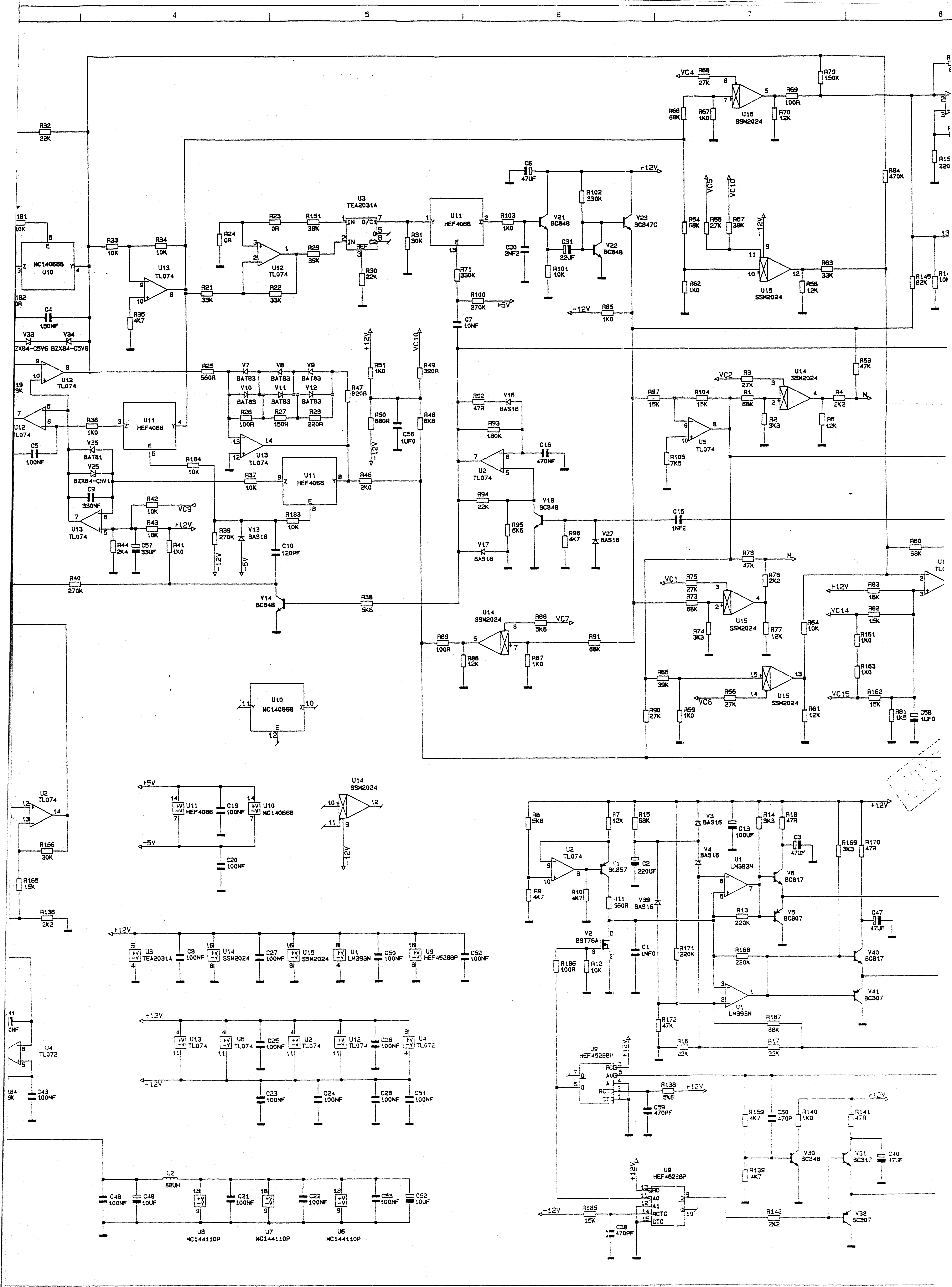
C21
100NF
C22
100NF
U8
MC144110P
U7
MC144110P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R34 10K
U13 TL074
R35 4K7
R21 33K
R24 0R
R23 0R
R151 39K
U12 TL074
R29 39K
R22 33K
U3 TEA2031A
IN 0/C1
IN REF
C2
R31 30K
R30 22K
U11 HEF4066
R103 1K0
C6 47UF
R71 330K
R100 270K +5V
C7 10NF
V21 BC848
C30 2NF2
R101 10K
C31 22UF
V22 BC848
R102 330K
V23 BC847C
+12V
R85 1K0
-12V
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R66 68K
R67 1K0
R70 12K
R84 470K
VC5
VC10
R54 68K
R55 27K
R57 39K
R62 1K0
R63 33K
R58 12K
R145 82K
R25 560R
V7 BAT83
V8 BAT83
V9 BAT83
V10 BAT83
V11 BAT83
V12 BAT83
R26 100R
R27 150R
R28 220R
R47 820R
R51 1K0
R50 880R
C56 1UF0
R49 390R
R48 6K8
U12 TL074
R36 1K0
V35 BAT81
V25 BZX84-C5V1
C9 330NF
C5 100NF
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R43 18K
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-5V
R183 10K
C10 120PF
R40 270K
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R38 5K6
R92 47R
V16 BAS16
R93 180K
U2 TL074
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R95 5K6
V18 BC848
R96 4K7
V27 BAS16
V17 BAS16
C15 1NF2
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VC2
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VC6
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R61 12K
VC15
R162 15K
R81 1K5
C58 1UF0
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U2 TL074
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R165 15K
R136 2K2
+5V
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-5V
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R10 4K7
R11 560R
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V4 BAS16
U1 LM393N
V6 BC817
C3 47UF
V39 BAS16
R13 220K
V5 BC807
C47 47UF
V2 BST76A
C1 1NF0
R171 220K
R168 220K
V40 BC817
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V41 BC807
R172 47K
R167 68K
R16 22K
R17 22K
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RCT
CT
R138 5K6
C59 470PF
R159 4K7
C50 470P
R140 1K0
R141 47R
R139 4K7
V30 BC848
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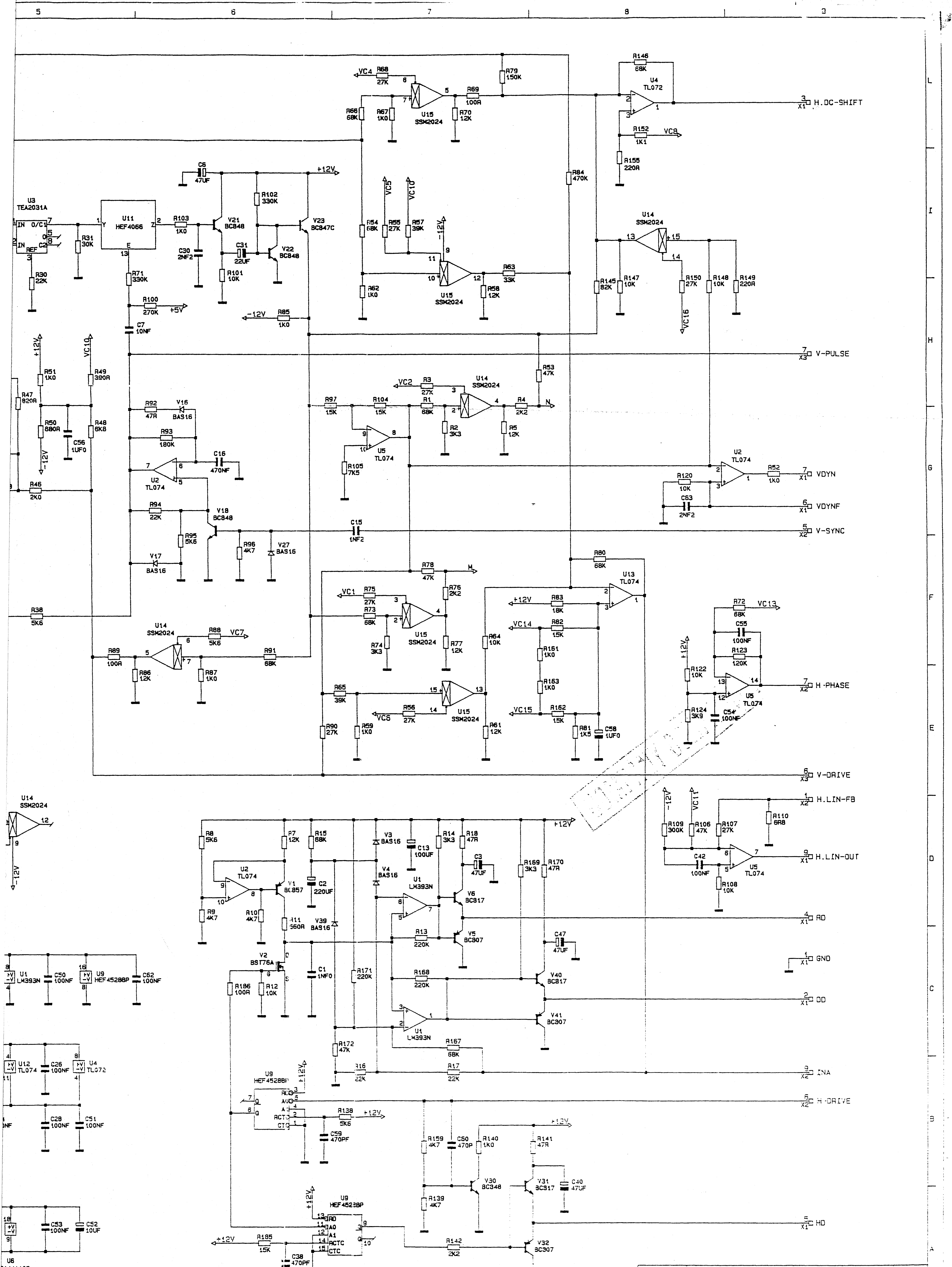
R142 2K2
V32 BC807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U3
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IN O/C1
IN REF C2
U11
HEF4066
R103 1K0
V21 BC848
C6 47UF
R102 330K
+12V
V23 BC847C
C30 2NF2
C31 22UF
V22 BC848
R101 10K
R31 30K
R30 22K
R71 330K
R100 270K
+5V
C7 10NF
R85 1K0
-12V
VC4
R68 27K
U15 SSM2024
R66 68K
R67 1K0
R69 100R
R70 12K
R79 150K
R84 470K
VC5
VC10
R54 68K
R55 27K
R57 39K
R62 1K0
R63 33K
R58 12K
R146 68K
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H.DC-SHIFT
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R147 10K
R150 27K
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VC16
V-PULSE
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VC10
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R50 880R
C56 1UF0
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R92 47R
V16 BAS16
R93 180K
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C16 470NF
R46 2K0
R94 22K
V18 BC848
R95 5K6
V17 BAS16
R96 4K7
V27 BAS16
C15 1NF2
V-SYNC
R38 5K6
VC2
R3 27K
R97 15K
R104 15K
R1 68K
R2 3K3
R4 2K2
R5 12K
R53 47K
U5 TL074
R105 7K5
U2 TL074
R120 10K
R52 1K0
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C63 2NF2
VDYNF
R78 47K
R80 68K
U13 TL074
VC1
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R76 2K2
R74 3K3
R77 12K
R64 10K
R83 18K
VC14
R82 15K
R161 1K0
R163 1K0
VC15
R162 15K
R81 1K5
C58 1UF0
R72 68K
VC13
C55 100NF
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R122 10K
R124 3K9
C54 100NF
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R86 12K
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R91 68K
R65 39K
VC6
R56 27K
R90 27K
R59 1K0
R61 12K
V-DRIVE
H.LIN-FB
VC11
R109 300K
R106 47K
R107 27K
R110 6R8
C42 100NF
R108 10K
H.LIN-OUT
R8 5K6
R7 12K
R15 68K
V3 BAS16
C13 100UF
R14 3K3
R18 47R
C3 47UF
R169 3K3
R170 47R
V1 BC857
C2 220UF
V4 BAS16
U1 LM393N
V6 BC817
R9 4K7
R10 4K7
R11 560R
V39 BAS16
R13 220K
V5 BC807
RD
C47 47UF
V2 BST76A
C1 1NF0
R171 220K
R168 220K
V40 BC817
GND
U1 LM393N
C50 100NF
U9 HEF4528BP
C62 100NF
R186 100R
R12 10K
OD
V41 BC807
R172 47K
R167 68K
R16 22K
R17 22K
INA
U12 TL074
C26 100NF
U4 TL072
C28 100NF
C51 100NF
H-DRIVE
R138 5K6
C59 470PF
R159 4K7
C50 470P
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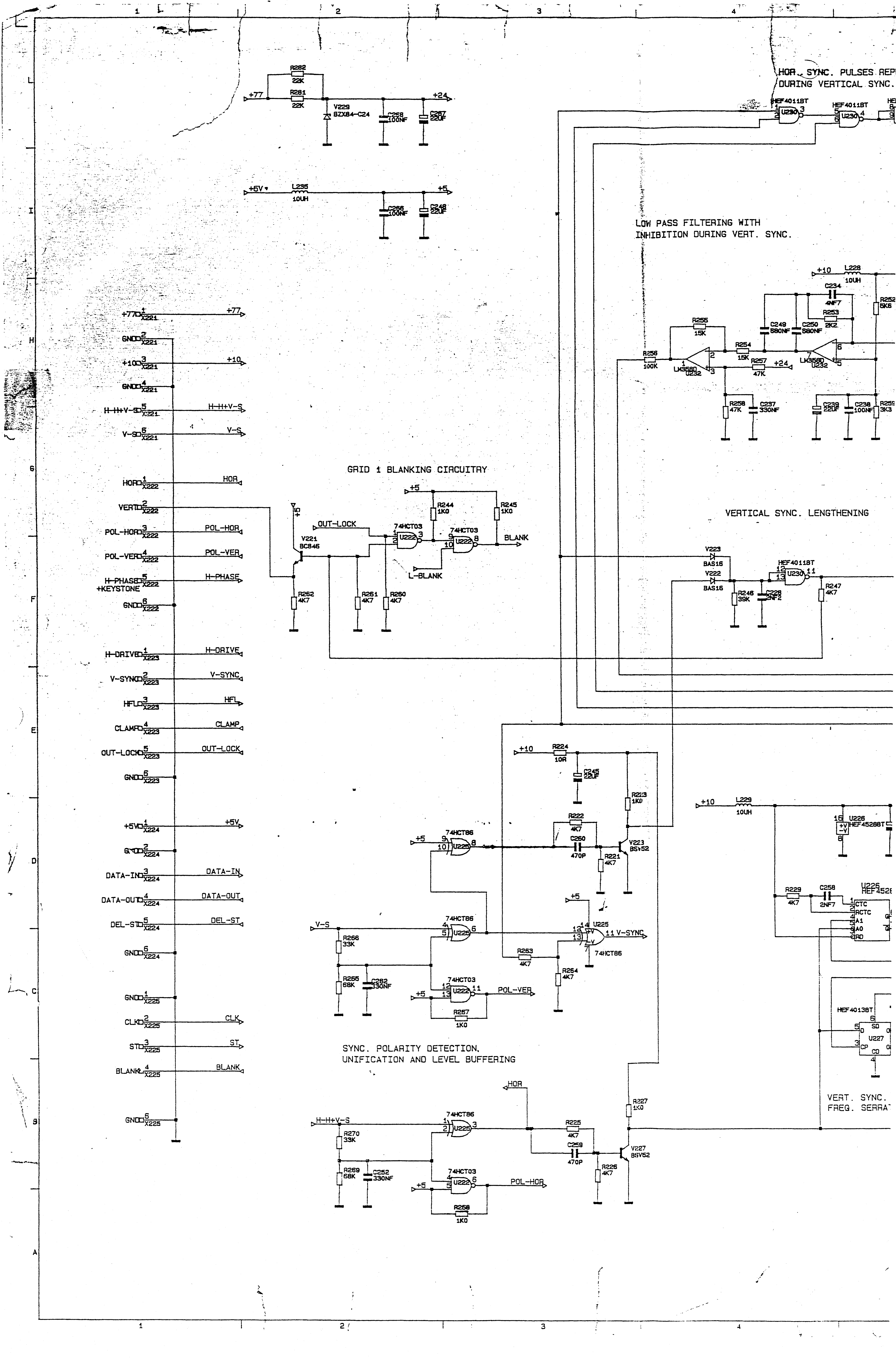
R141 47R
V30 BC848
V31 BC817
C40 47UF
R139 4K7
C53 100NF
C52 10UF
U6
C144110P
HD
R185 15K
C38 470PF
R142 2K2
V32 BC807
A2

	C2082DAS LOW LEVEL SIGNALS BOARD CIRCUIT DIAGRAM	3119 208 6230	1	92-06-12
			1	92-07-15
			1	92-12-11
			1	93-06-03
A./ILLA		SH. 130 – 1	1	93-11-29
AN	FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY		DATE 91-08-06	



1
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L
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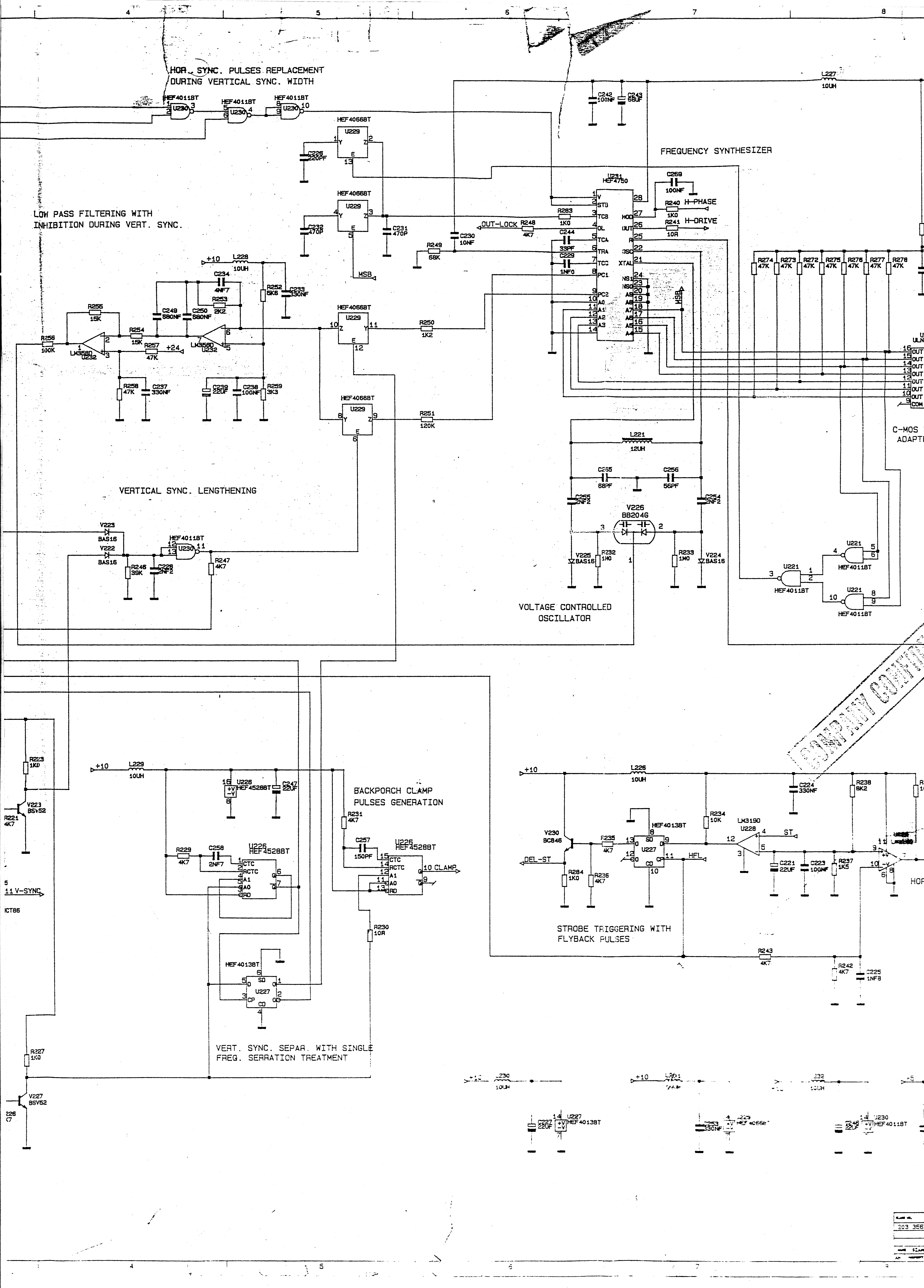
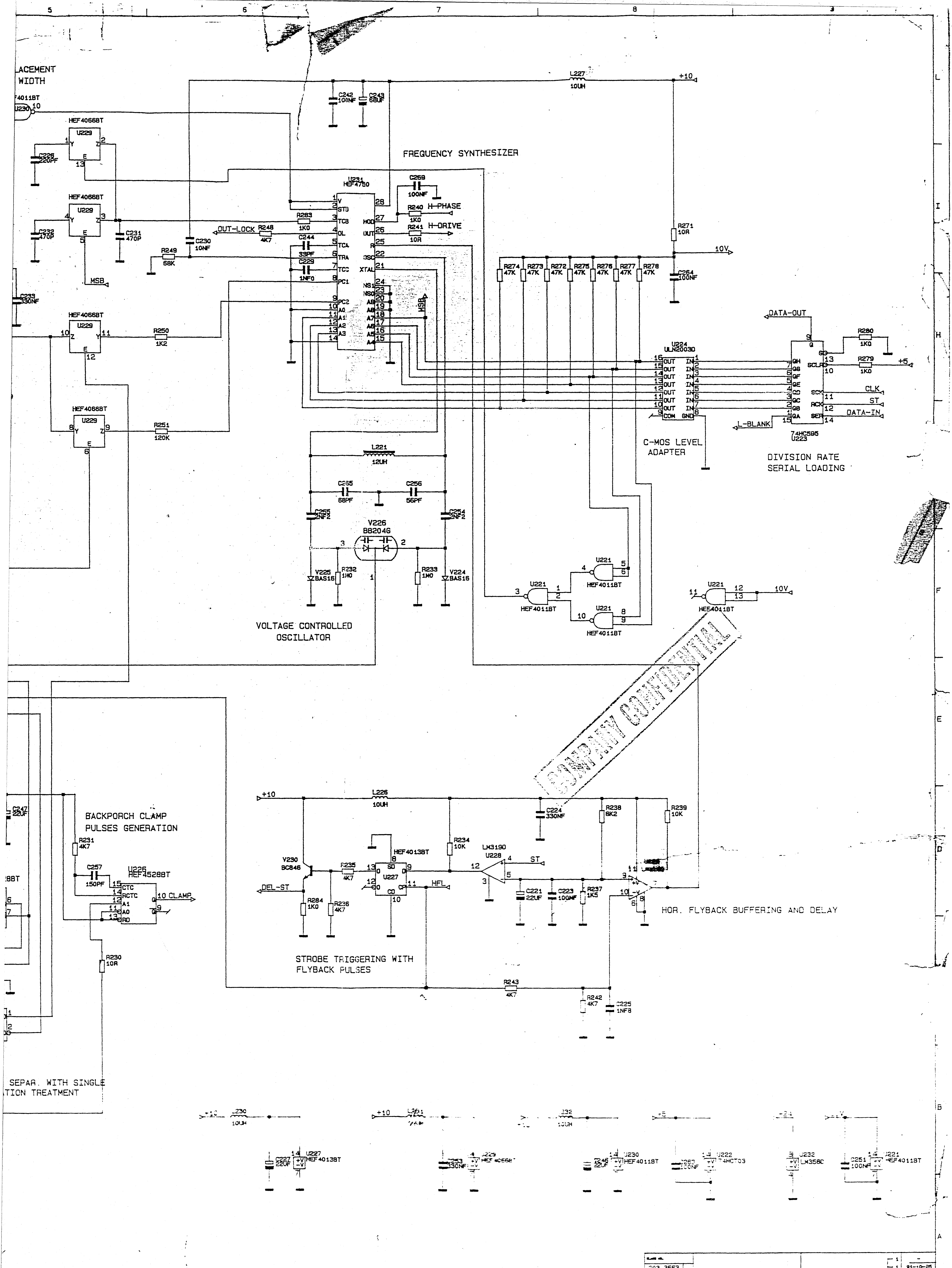
H
G
F
E
D
C
B
A
HOR. SYNC. PULSES REP
DURING VERTICAL SYNC.
LOW PASS FILTERING WITH
INHIBITION DURING VERT. SYNC.
GRID 1 BLANKING CIRCUITRY
VERTICAL SYNC. LENGTHENING
SYNC. POLARITY DETECTION,
UNIFICATION AND LEVEL BUFFERING
VERT. SYNC.
FREQ. SERRA
R282 22K
R281 22K
+77
+24
V229 BZX84-C24
C258 100NF
C257 22UF
+5V
L235 10UH
+5
C266 100NF
C248 22UF
+77 X221 1
GND X221 2
+10 X221 3
GND X221 4
H-H+V-S X221 5
V-S X221 6
HOR X222 1
VERT X222 2
POL-HOR X222 3
POL-VER X222 4
H-PHASE +KEYSTONE X222 5
GND X222 6
H-DRIVE X223 1
V-SYNC X223 2
HFL X223 3
CLAMP X223 4
OUT-LOCK X223 5
GND X223 6
+5V X224 1
GND X224 2
DATA-IN X224 3
DATA-OUT X224 4
DEL-ST X224 5
GND X224 6
GND X225 1
CLK X225 2
ST X225 3
BLANK X225 4
GND X225 5
+77
+10
H-H+V-S
V-S
HOR
POL-HOR
POL-VER
H-PHASE
H-DRIVE
V-SYNC
HFL
CLAMP
OUT-LOCK
+5V
DATA-IN
DATA-OUT
DEL-ST
CLK
ST
BLANK
HEF4011BT U230
HEF4011BT U230
+10 L228 10UH
C234 4NF7
R252 5K6
R253 2K2
R255 15K
C249 680NF
C250 680NF
R256 100K
LM358D U232
R254 15K
R257 47K
+24
LM358D U232
R258 47K
C237 330NF
C239 22UF
C238 100NF
R259 3K3
+5
R244 1K0
R245 1K0
OUT-LOCK
74HCT03 U222
74HCT03 U222
BLANK
L-BLANK
V221 BC846
R262 4K7
R261 4K7
R260 4K7
V223 BAS16
V222 BAS16
HEF4011BT U230
R246 39K
C226 2NF2
R247 4K7
+10
R224 10R
C245 22UF
R223 1K0
R222 4K7
C260 470P
R221 4K7
V223 BSV52
74HCT86 U225
+5
74HCT86 U225
V-S
R266 33K
R265 68K
C262 330NF
U225 74HCT86
V-SYNC
R263 4K7
R264 4K7
74HCT03 U222
POL-VER
R267 1K0
+10 L229 10UH
U226 HEF4528BT
R229 4K7
C258 2NF7
U226 HEF452
CTC
RCTC
A1
A0
RD
HEF4013BT U227
SD
D
CP
CD
HOR
H-H+V-S
74HCT86 U225
R270 33K
R269 68K
C252 330NF
74HCT03 U222
POL-HOR
R268 1K0
R225 4K7
C259 470P
R226 4K7
R227 1K0
V227 BSV52


4
5
6
7
8
HOR. SYNC. PULSES REPLACEMENT DURING VERTICAL SYNC. WIDTH
HEF4011BT
U230
HEF4066BT
U229
C226 220PF
C232 470P
C231 470P
C230 10NF
C242 100NF
C243 68UF
L227 10UH
FREQUENCY SYNTHESIZER
U231 HEF4750
C269 100NF
R240 1K0 H-PHASE
R241 10R H-DRIVE
R283 1K0
OUT-LOCK
R248 4K7
C244 33PF
C229 1NF0
R249 68K
MSB
LOW PASS FILTERING WITH INHIBITION DURING VERT. SYNC.
+10
L228 10UH
C234 4NF7
R253 2K2
R252 5K6
C233 330NF
C249 680NF
C250 680NF
R255 15K
R254 15K
R257 47K
+24
R256 100K
LM3580 U232
R258 47K
C237 330NF
C239 22UF
C238 100NF
R259 3K3
R250 1K2
R251 120K
R274 47K
R273 47K
R272 47K
R275 47K
R276 47K
R277 47K
R278 47K
ULN
C-MOS
ADAPT
L221 12UH
C255 68PF
C256 56PF
C255 2NF2
C254 2NF2
V226 BB204G
V225 BAS16
R232 1M0
R233 1M0
V224 BAS16
U221 HEF4011BT
VOLTAGE CONTROLLED OSCILLATOR
VERTICAL SYNC. LENGTHENING
V223 BAS16
V222 BAS16
R246 39K
C228 2NF2
R247 4K7
R223 1K0
V223 BSV52
R221 4K7
11 V-SYNC
ICT86
+10
L229 10UH
U226 HEF4528BT
C247 22UF
BACKPORCH CLAMP PULSES GENERATION
R231 4K7
C257 150PF
R229 4K7
C258 2NF7
10 CLAMP
R230 10R
HEF4013BT
U227
VERT. SYNC. SEPAR. WITH SINGLE FREQ. SERRATION TREATMENT
R227 1K0
V227 BSV52
+10
L226 10UH
C224 330NF
R238 8K2
R234 10K
LM3190 U228
ST
V230 BC846
R235 4K7
DEL-ST
R284 1K0
R236 4K7
HFL
C221 22UF
C223 100NF
R237 1K5
HOR
STROBE TRIGGERING WITH FLYBACK PULSES
R243 4K7
R242 4K7
C225 1NF8
L230 10UH
L231
L232 10UH
C227 22UF
U227 HEF4013BT
C253 330NF
U229 HEF4066BT
C246 22UF
U230 HEF4011BT
303 356
COMPANY CONFI



LACEMENT
WIDTH
FREQUENCY SYNTHESIZER
U231 HEF4750
OUT-LOCK
H-PHASE
H-DRIVE
MSB
+10
10V
DATA-OUT
U224 ULN2003D
74HC595 U223
CLK
ST
DATA-IN
L-BLANK
C-MOS LEVEL ADAPTER
DIVISION RATE SERIAL LOADING
VOLTAGE CONTROLLED OSCILLATOR
V226 BB204G
L221 12UH
U221 HEF4011BT
BACKPORCH CLAMP PULSES GENERATION
U225 HEF4528BT
10 CLAMP
STROBE TRIGGERING WITH FLYBACK PULSES
DEL-ST
V230 BC846
U227 HEF4013BT
HFL
LM3190 U228
HOR. FLYBACK BUFFERING AND DELAY
SEPAR. WITH SINGLE
TION TREATMENT
L226 10UH
L227 10UH
COMPANY CONFIDENTIAL

203 3563

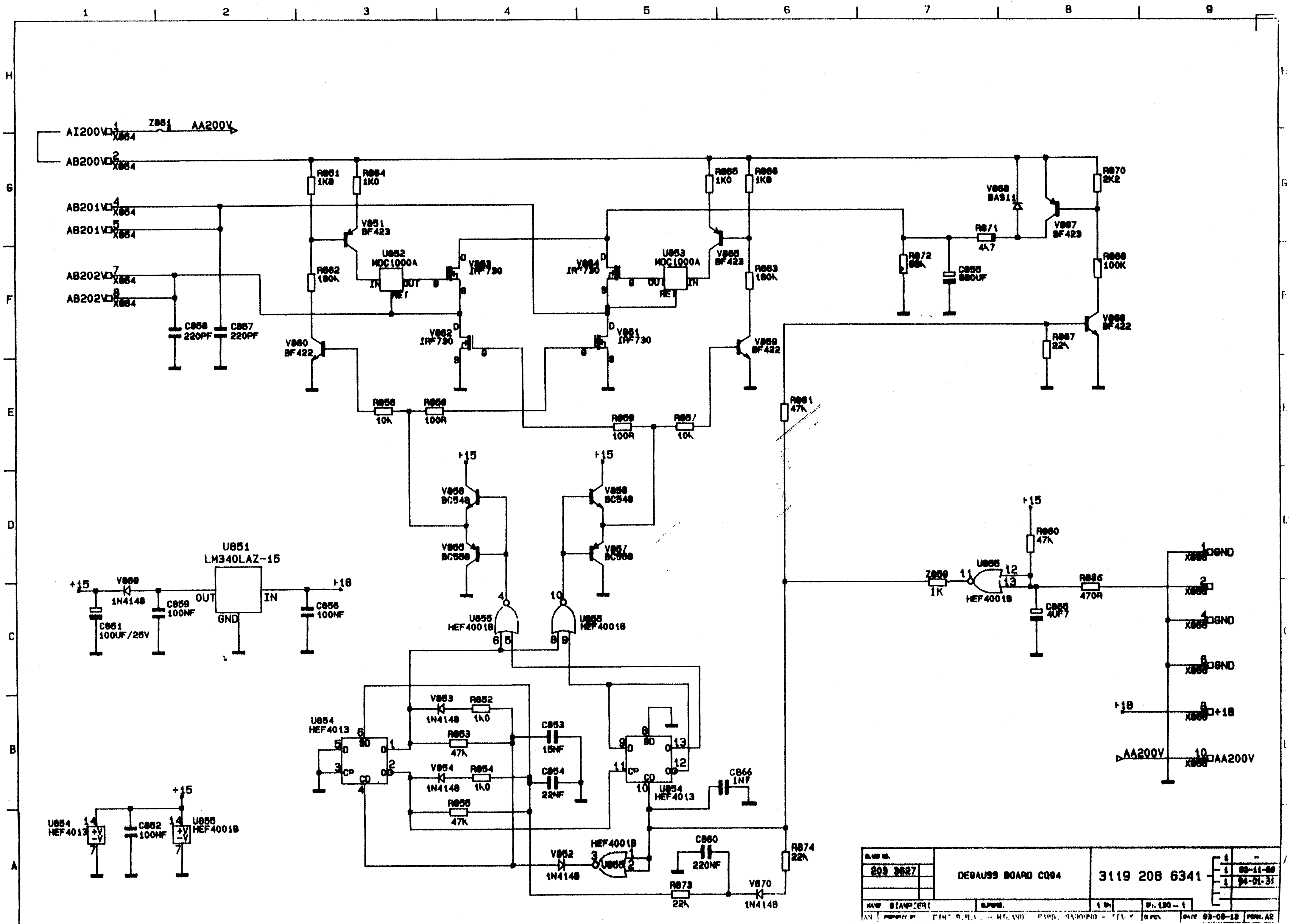
HOR. SYNCR. DAS C2082

3119 208 6231

91-10-25
92-02-11
92-06-29

SIAMPIERI

FIMI S.p.A. - MILANO - FABB. SARONNO - ITALY


1
2
3
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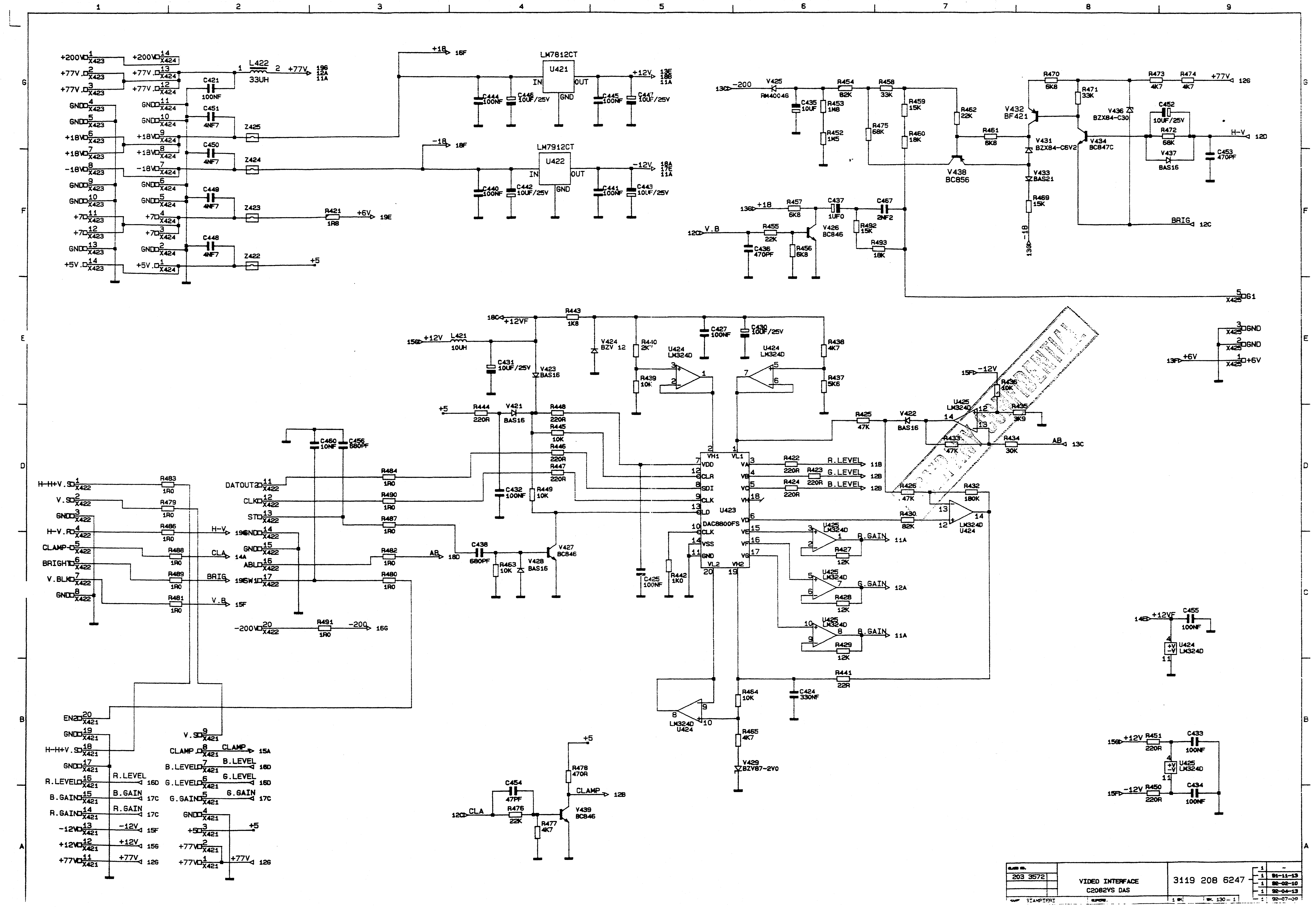
6
7
8
9
H
G
F
E
D
C
B
A
AI200V 1 X864
Z851
AA200V
AB200V 2 X864
AB201V 4 X864
AB201V 5 X864
AB202V 7 X864
AB202V 8 X864
C858 220PF
C857 220PF
R851 1K8
R854 1K0
V851 BF423
R852 180K
U852 MOC1000A
IN
OUT
REF
V863 IRF730
D
G
S
V860 BF422
V862 IRF730
R856 10K
R858 100R
V864 IRF730
U853 MOC1000A
V861 IRF730
R865 1K0
R866 1K8
V855 BF423
R853 180K
V859 BF422
R859 100R
R857 10K
R872 68K
C855 680UF
R871 4K7
V868 BAS11
V867 BF423
R870 2K2
R868 100K
V866 BF422
R867 22K
R861 47K
+15
V856 BC548
V855 BC558
V858 BC548
V857 BC558
U856 HEF4001B
4
6
5
10
8
9
+15
V869 1N4148
C859 100NF
U851 LM340LAZ-15
OUT
IN
GND
+18
C856 100NF
C851 100UF/25V
U854 HEF4013
SD
D
CP
CD
Q
Q̄
V853 1N4148
R852 1K0
R863 47K
C853 15NF
V854 1N4148
R864 1K0
C854 22NF
R855 47K
13
12
11
10
U854 HEF4013
C866 1NF
V852 1N4148
HEF4001B
U856
C860 220NF
R873 22K
V870 1N4148
R874 22K
U854 HEF4013
C852 100NF
U856 HEF4001B
14
7
+V
-V
+15
R860 47K
U856 HEF4001B
Z850 1K
C865 4UF7
R886 470R
X866
1 GND
2
4 GND
6 GND
8 +18
10 AA200V
AA200V
+18

203 3627	DEGAUSS BOARD CQ94	3119 208 6341	1 – 1 89-11-89 1 94-01-31
NAME GIAMPIERI		1 SH	91.130 – 1
		DATE 93-09-13	FORM. A2


1
2
3
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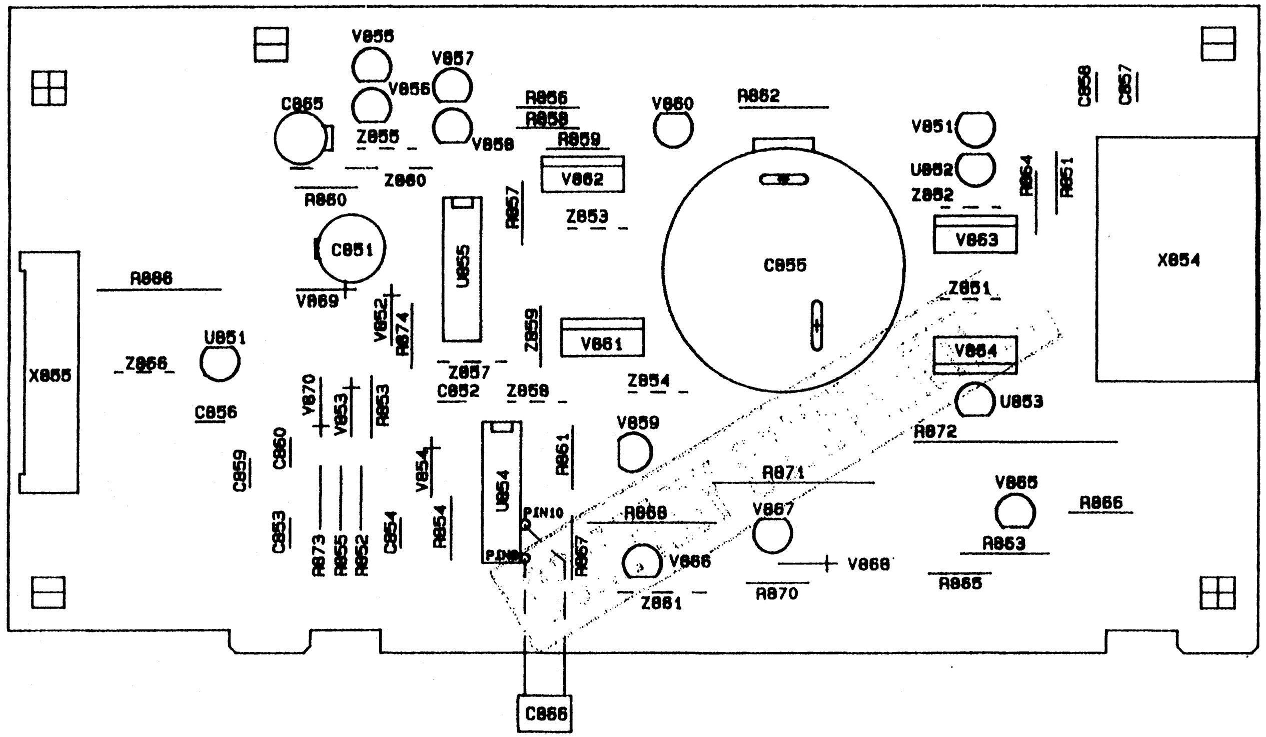
5
6
7
8
9
G
F
E
D
C
B
A
+200V X423
+77V X423
GND X423
+18V X423
-18V X423
+7D X423
+5V X423
X424
L422
33UH
+77V
C421 100NF
C451 4NF7
C450 4NF7
C449 4NF7
C448 4NF7
Z425
Z424
Z423
Z422
R421 1R8
+6V
+5
+18
-18
LM7812CT
U421
LM7912CT
U422
IN
OUT
GND
C444 100NF
C446 10UF/25V
C445 100NF
C447 10UF/25V
C440 100NF
C442 10UF/25V
C441 100NF
C443 10UF/25V
+12V
-12V
-200
V425 RM4004G
C435 10UF
R454 82K
R453 1M8
R452 1M5
R458 33K
R459 15K
R475 68K
R460 18K
R462 22K
R461 6K8
V438 BC856
V432 BF421
V431 BZX84-C6V2
V433 BAS21
R469 15K
R470 6K8
R471 33K
V434 BC847C
V436 BZX84-C30
R473 4K7
R474 4K7
C452 10UF/25V
R472 68K
V437 BAS16
C453 470PF
H-V
BRIG
R457 6K8
C437 1UF0
C467 2NF2
V.B
R455 22K
V426 BC846
R492 15K
R493 18K
C436 470PF
R456 6K8
X425 G1
+12VF
R443 1K8
L421 10UH
C431 10UF/25V
V423 BAS16
V424 BZV 12
R440 2K7
R439 10K
U424 LM324D
C427 100NF
C430 100F/25V
R438 4K7
R437 5K6
R444 220R
V421 BAS16
R448 220R
R445 10K
R446 220R
R447 220R
R449 10K
C432 100NF
C450 10NF
C456 680PF
U423
DAC8800FS
VH1
VL1
VDD
CLR
SDI
CLK
LD
VSS
VA
VB
VC
VH
VD
VE
VF
VG
VL2
VH2
R422 220R
R423 220R
R424 220R
R.LEVEL
G.LEVEL
B.LEVEL
R430 82K
U425 LM324D
R427 12K
R428 12K
R429 12K
R.GAIN
G.GAIN
B.GAIN
R425 47K
V422 BAS16
R436 10K
R435 3K9
R433 47K
R434 30K
AB
R426 47K
R432 180K
H-H+V.S X422
V.S
H-V.R
CLAMP
BRIGHT
V.BLK
R483 1R0
R479 1R0
R486 1R0
R488 1R0
R489 1R0
R481 1R0
DATOUT2
CLK
STD
ABLD
SW1
R484 1R0
R490 1R0
R487 1R0
R482 1R0
R480 1R0
C438 680PF
R463 10K
V428 BAS16
V427 BC846
C425 100NF
R442 1K0
-200V X422
R491 1R0
R464 10K
R465 4K7
V429 BZV87-2V0
C424 330NF
R441 22R
EN2 X421
+12VF
C455 100NF
R451 220R
C433 100NF
R450 220R
C434 100NF
+6V
R478 470R
C454 47PF
CLA
R476 22K
R477 4K7
V439 BC846
CLAMP

203 3572	VIDEO INTERFACE C2082VS DAS	3119 208 6247	91-11-13 92-02-10 92-04-13 92-07-09
SIAMPIERI			

VIDE-V16304 / Druck 5


V855
V857
V856
C865
Z855
V858
R856
R858
R859
V862
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R862
Z860
R860
R857
Z853
U855
C851
R886
V869
V852
R874
X855
Z866
U851
C856
V870
V853
R853
C859
C860
C853
R873
R855
R852
C854
V854
R854
U854
PIN10
PIN1
R861
Z857
C852
Z858
Z859
V861
Z854
V859
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R867
V866
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R871
V867
V868
R870
C855
V851
U852
Z852
R864
R851
V863
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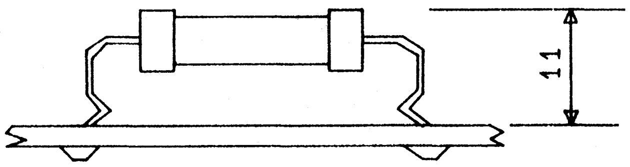
V865
R866
R863
R865
X854
C858
C857
C866

R872, R871, R868.



CLASS NO.
203 3627

DEGAUSS BOARD CQ94

3119 208 6341

1	-
1	93-11-29
1	94-01-31

NAME GIAMPIERI | SUPERS. | 1 SH | SH. 110 — 1

AN | PROPERTY OF FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY | CHECK | DATE 93-09-13 | FORM. A3

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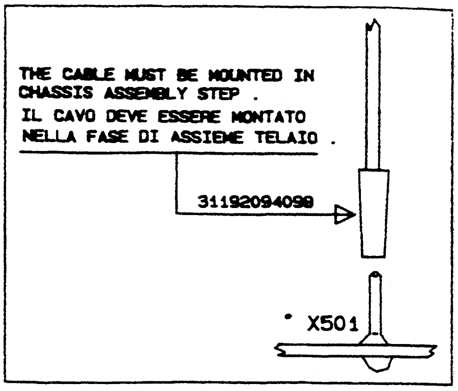
TUTTI I DIRITTI SONO STRETTAMENTE RISERVATI. LA RIPRODUZIONE E LA COMUNICAZIONE A TERZI E VIETATA IN QUALSIASI [illegible] SCRITTA DELLA PROPRIETARIA

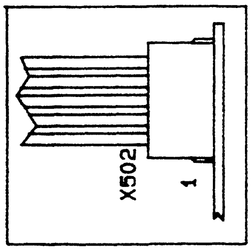
VENDOR SHALL CERTIFY COMPLIANCE WITH THE ENVIRONMENTAL REQUIREMENTS ACCORDING TO
RULE : UAN-D1783

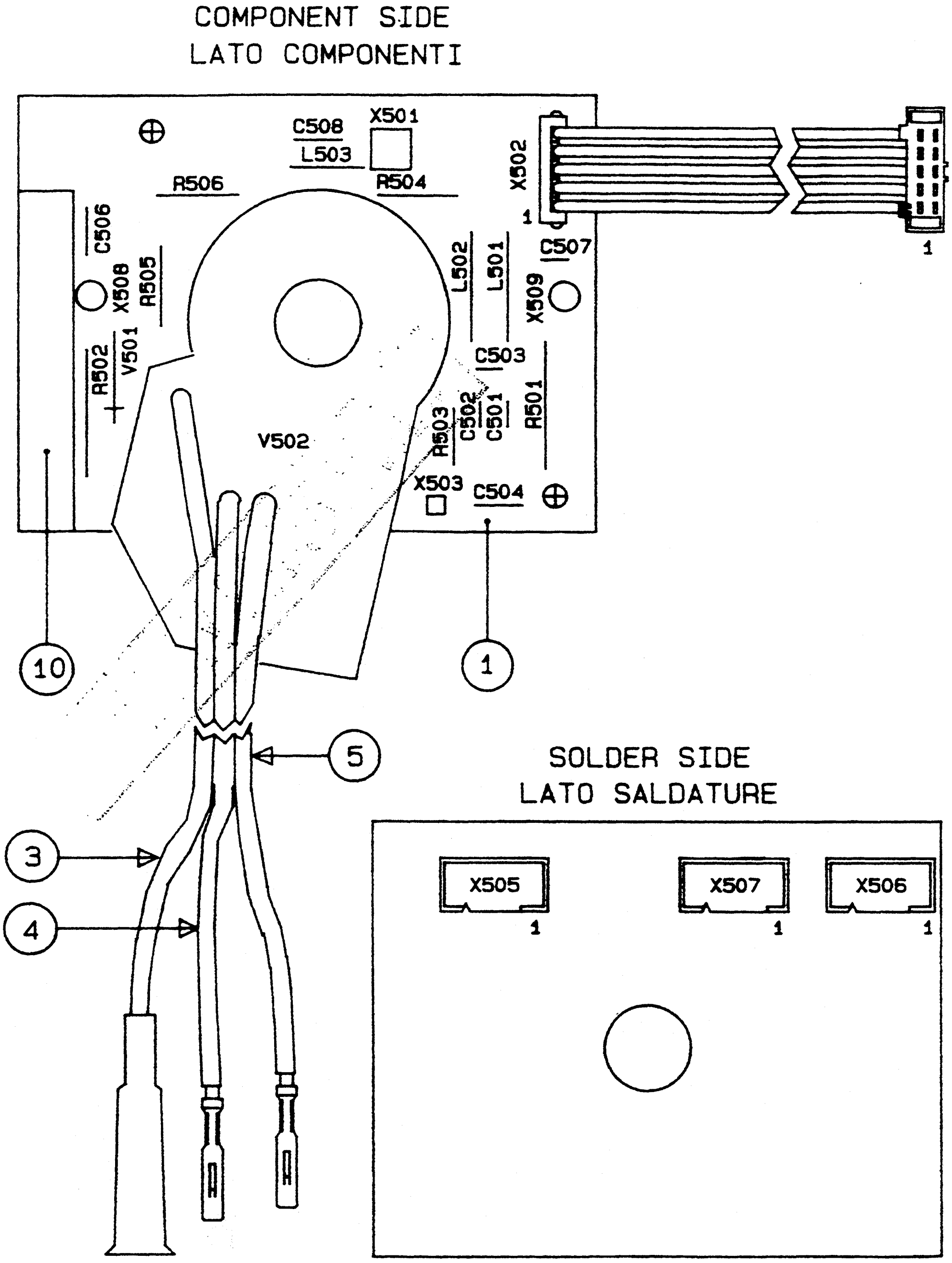
IL FORNITORE DEVE CERTIFICARE DI ESSERE CONFORME CON I REQUISITI AMBIENTALI SECONDO
LE NORME: UAN-D1783



THE CABLE MUST BE MOUNTED IN CHASSIS ASSEMBLY STEP .
IL CAVO DEVE ESSERE MONTATO NELLA FASE DI ASSIEME TELAIO .

31192094098
X501





COMPONENT SIDE
LATO COMPONENTI
C508
X501
L503
R506
R504
X502
1
C507
1
C506
X508
R505
L502
L501
X509
C503
R502
V501
V502
R503
C502
C501
R501
X503
C504
10
1
5
SOLDER SIDE
LATO SALDATURE
3
4
X505
X507
X506
1
1
1

CLASS NO. 203 3566	C.R.T. DAS C2082	3119 208 6244	1	-	
			1	92-04-27	
			1	92-06-16	
NAME GIAMPIERI	SUPERS.	1 SH	SH. 110 — 1		
AN	PROPERTY OF FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY	CHECK	DATE 91-09-17	FORM. A4	

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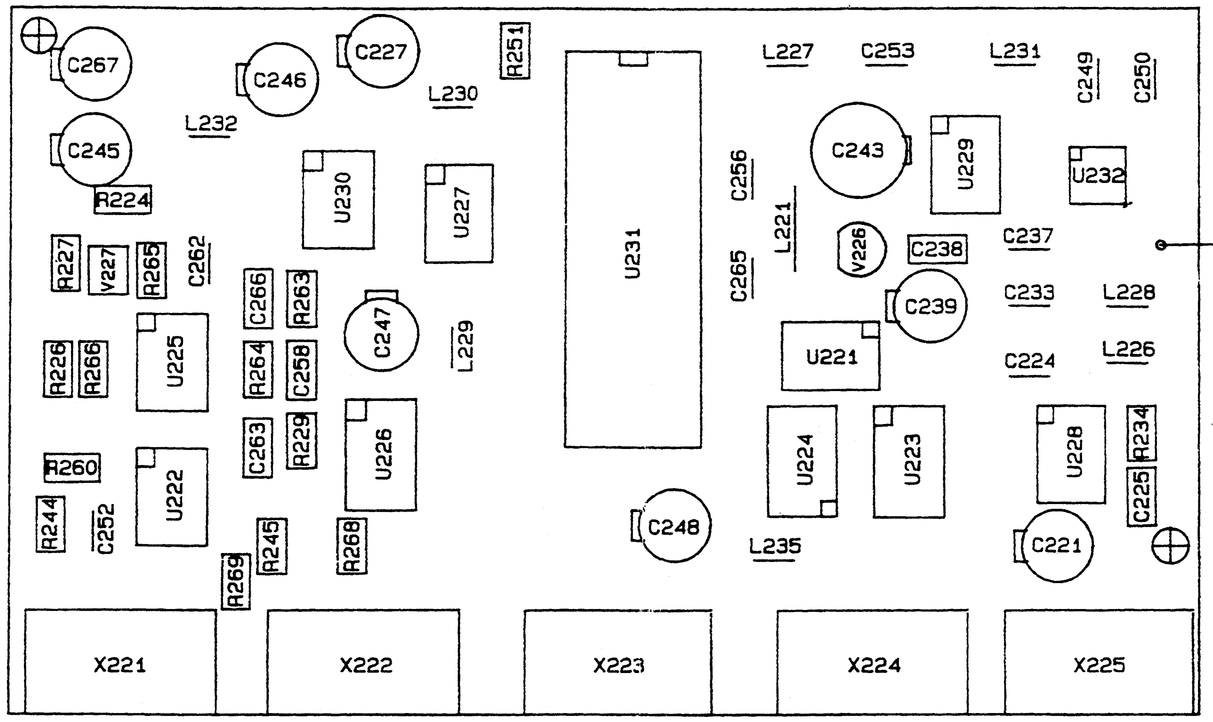
TUTTI I DIRITTI SONO STRETTAMENTE RISERVATI. LA RIPRODUZIONE O LA COMUNICAZIONE A TERZI E VIETATA IN QUALUNQUE FORMA SENZA AUTORIZZAZIONE SCRITTA DELLA PROPRIETARIA.

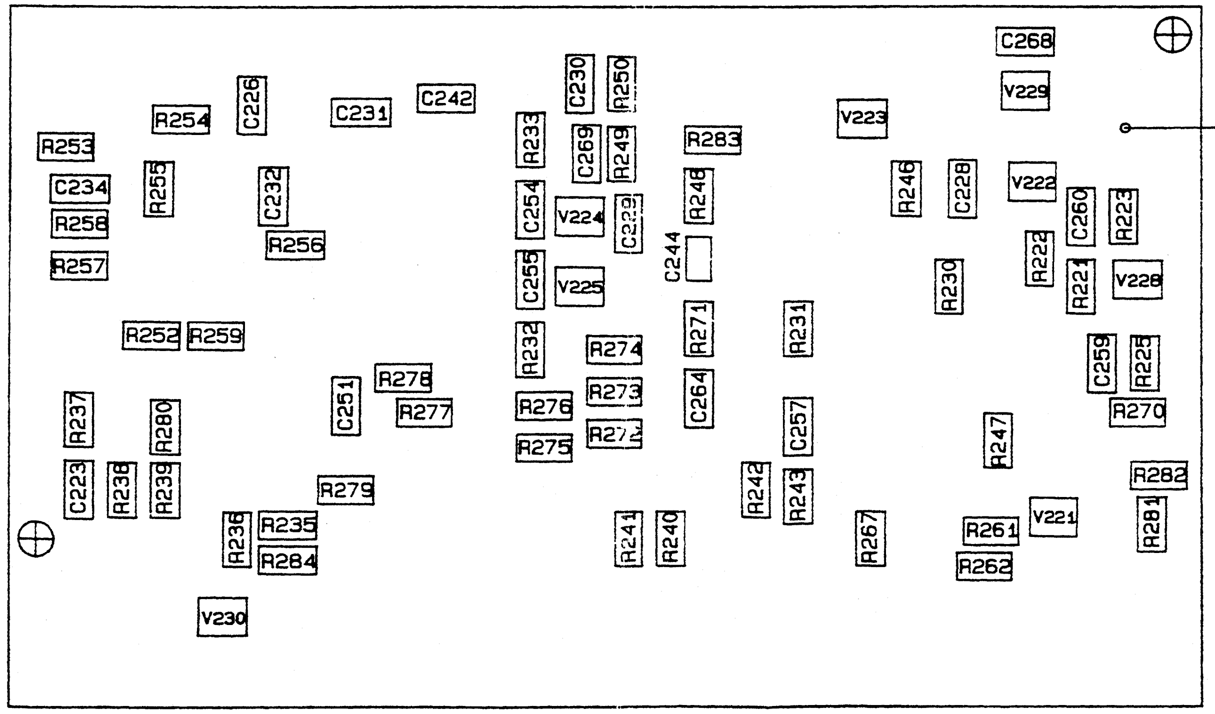
V16304



C267
C246
C227
L230
R251
L227
C253
L231
C249
C250
L232
C245
C243
U229
U232
C256
R224
U230
U227
U231
L221
R227
V227
R265
C262
C266
R263
C247
L229
C265
V226
C238
C237
C239
C233
L228
U225
R226
R266
R264
C258
U221
C224
L226
C263
R229
U226
U224
U223
U228
R234
R260
U222
R244
C252
R245
R268
C248
L235
C225
C221
R269
X221
X222
X223
X224
X225

SILKSCREEN SIDE (CL01)

LATO SERIGRAFIA



C268
V229
C230
R250
R254
C226
C231
C242
R233
C269
R249
R283
V223
R253
C234
R255
C232
C254
V224
C229
R248
R246
C228
V222
C260
R223
R258
R256
C244
R222
R257
C255
V225
R230
R221
V228
R252
R259
R232
R274
R271
R231
C259
R225
R278
R273
C264
C251
R277
R276
R270
R237
R280
R275
R272
C257
R247
C223
R238
R239
R279
R242
R243
R282
R236
R235
R281
R241
R240
R267
R261
V221
R284
R262
V230

SOLDER SIDE (CL02)

LATO SALDATURA

VENDOR SHALL CERTIFY COMPLIANCE WITH THE ENVIRONMENTAL REQUIREMENTS ACC. TO UAN-D 1783

CLASS NO.
203 3563

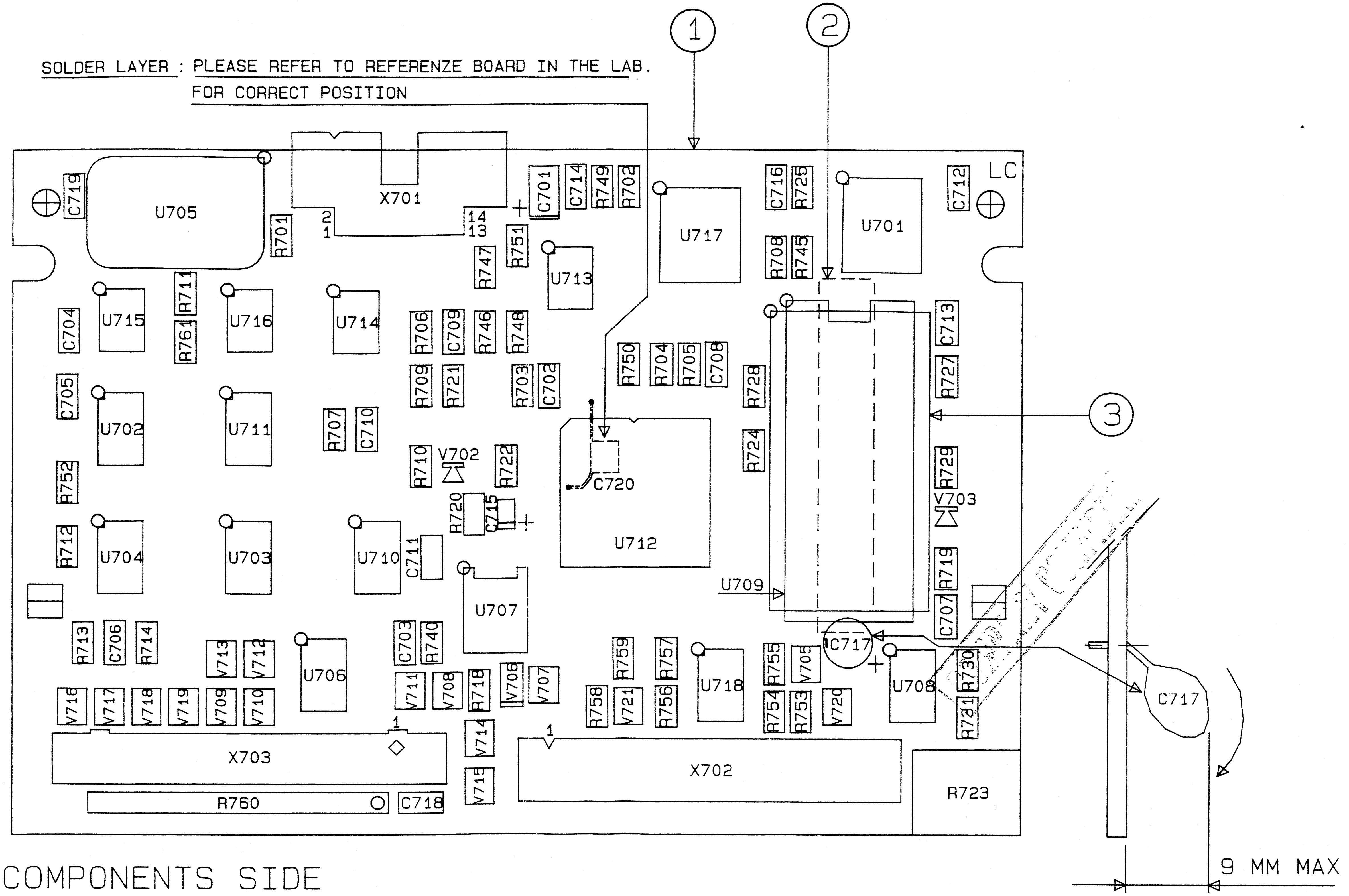
HOR. SYNCR. DAS C2082

3119 208 6231

1	–
1	91-10-25
1	92-06-24

NAME GIAMPIERI
SUPERS.
1 SH.
SH. 110 — 1
AN PROPERTY OF FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY
CHECK
DATE 91-09-13
FORM. A3

SOLDER LAYER : PLEASE REFER TO REFERENZE BOARD IN THE LAB.
FOR CORRECT POSITION


①
②
③
LC
U705
X701
2
1
14
13
C719
R701
C701
C714
R749
R702
R751
R747
U713
U717
C716
R725
R708
R745
U701
C712
U715
U716
U714
R711
R761
C704
R706
C709
R746
R748
R709
R721
R703
C702
R750
R704
R705
C708
R728
C713
R727
C705
U702
U711
R707
C710
R710
V702
R722
C720
R724
R729
V703
R752
R720
C715
U712
R712
U704
U703
U710
C711
U707
U709
R719
C707
R713
C706
R714
V713
V712
U706
C703
R740
R759
R757
U718
R755
V705
C717
U708
R730
V716
V717
V718
V719
V709
V710
V711
V708
R718
V706
V707
R758
V721
R756
R754
R753
V720
R731
X703
V714
X702
R723
R760
C718
V715
9 MM MAX

COMPONENTS SIDE

CLASS NO.	LOGIC ASSY (DAS C2082/2182)		3119 208 6227	3	93-05-26
				3	93-09-21
NAME MAZZEO	SUPERS.	1 SH.	SH. 110 — 1		
AN PROPERTY OF	FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY		CHECK	DATE 91-08-28	FORM. A3

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TUTTI I DIRITTI SONO STRETTAMENTE RISERVATI. LA RIPRODU-

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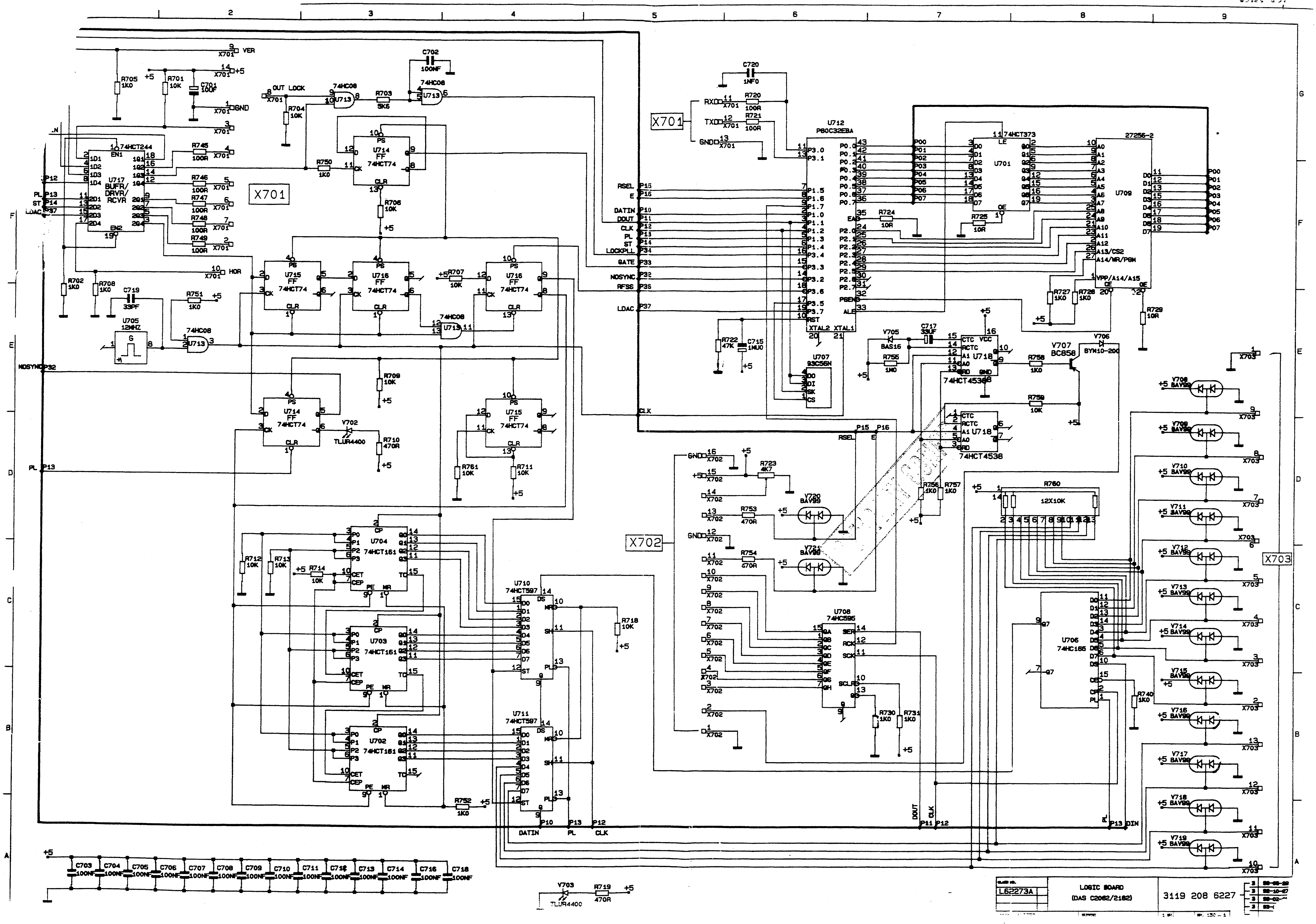
LOGIC BOARD
(DAS C2082/2182)
3119 208 6227
L62273A
X701
X702
X703
U712 P80C32EBA
U701 74HCT373
U709 27256-2
U717 74HCT244 BUFR/DRVR/RCVR
U713 74HC08
U714 FF 74HCT74
U715 FF 74HCT74
U716 FF 74HCT74
U705 12MHZ
U707 93C56N
U718 74HCT4538
V707 BC858
V706 BYM10-200
V705 BAS16
V702 TLUR4400
V703 TLUR4400
R760 12X10K
U704 74HCT161
U703 74HCT161
U702 74HCT161
U710 74HCT597
U711 74HCT597
U708 74HC595
U706 74HC165
V708 BAV99
V709 BAV99
V710 BAV99
V711 BAV99
V712 BAV99
V713 BAV99
V714 BAV99
V715 BAV99
V716 BAV99
V717 BAV99
V718 BAV99
V719 BAV99
V720 BAV99
V721 BAV99
VER
HOR
GND
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RXD
TXD
RSEL
E
DATIN
DOUT
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PL
ST
LOCKPLL
GATE
NOSYNC
RFSS
LDAC
C703 100NF
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C717 33UF
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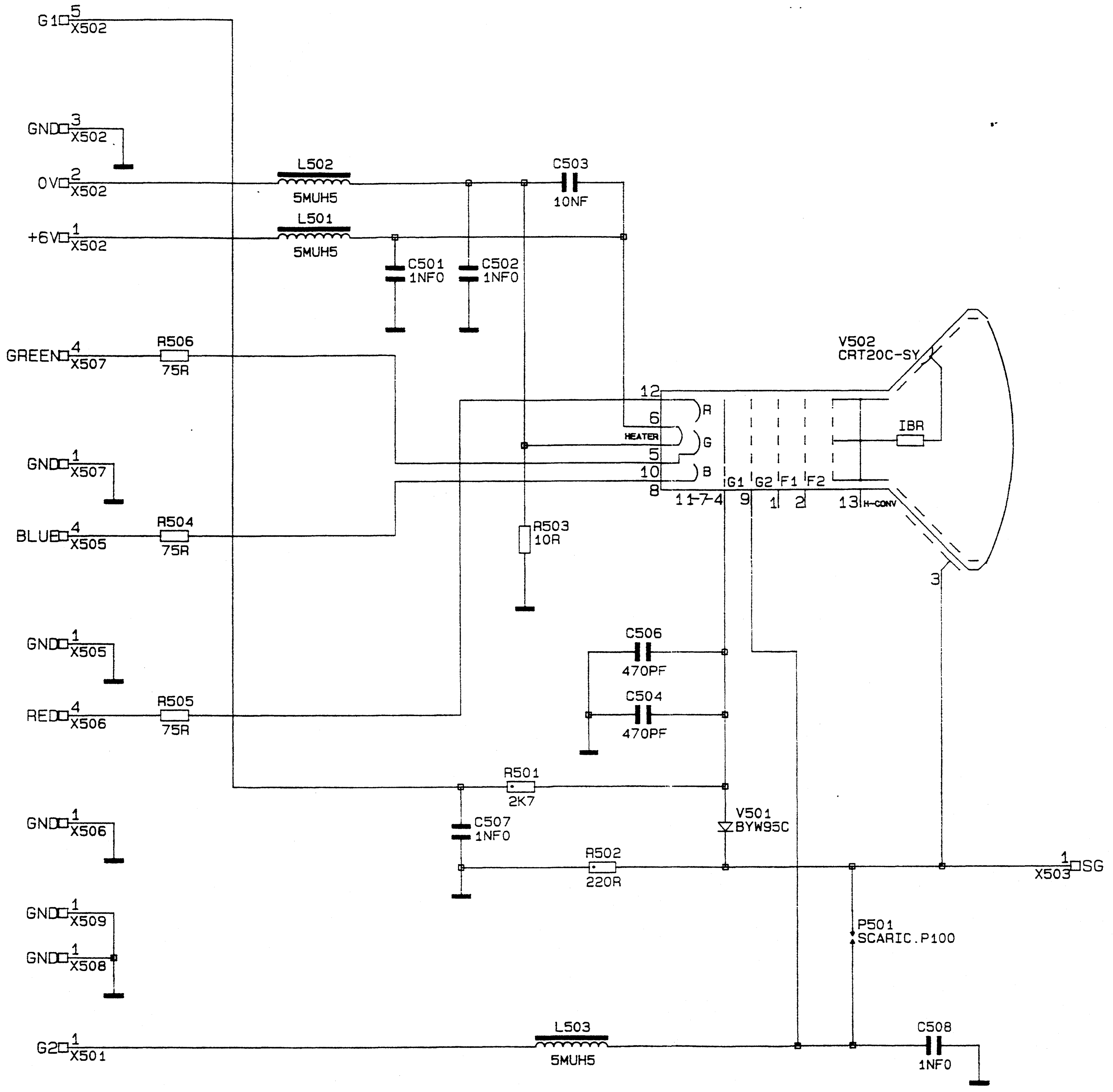
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R506 75R
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GND 1 X509
GND 1 X508
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V502 CRT20C-SY
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HEATER
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R
G
B
G1
G2
F1
F2
11-7-4
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2
13 H-CONV
IBR
3
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C504 470PF
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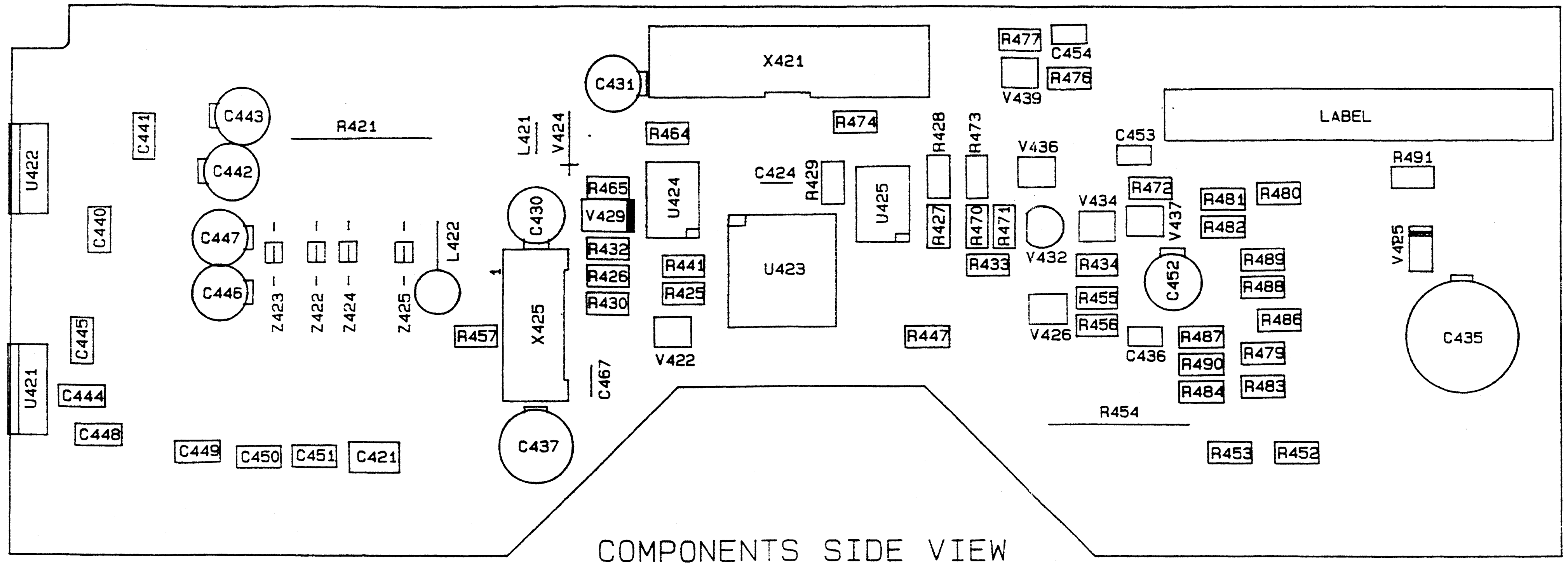
R502 220R
1 X503 SG
P501 SCARIC.P100
C508 1NF0

CLASS NO. 203 3566	C.R.T. DAS C2082		3119 208 6244		1 -
NAME GIAMPIERI	SUPERS.	1 SH.	SH. 130 — 1		
AN	PROPERTY OF FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY		CHECK	DATE 91-09-13	FORM. A2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V422
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C445
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C444
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R452
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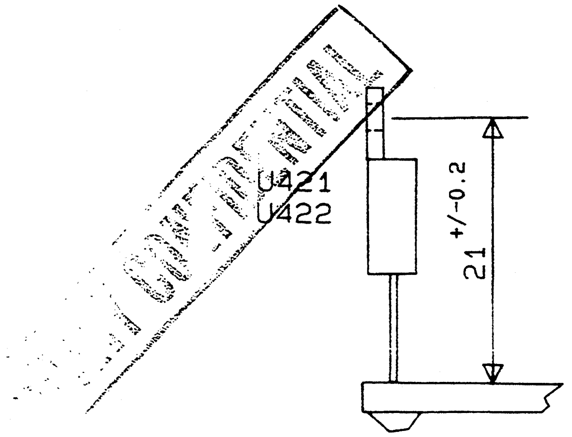
COMPONENTS SIDE VIEW
VISTA LATO COMPONENTI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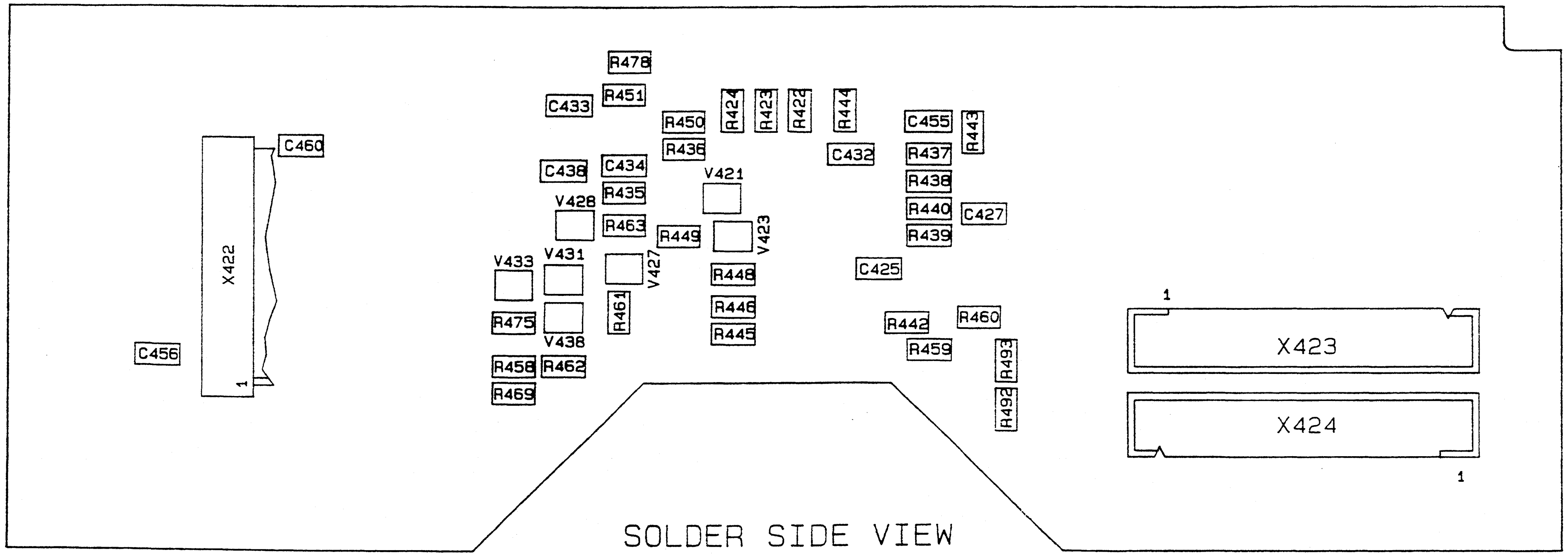
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R475
V438
R445
R442
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X424
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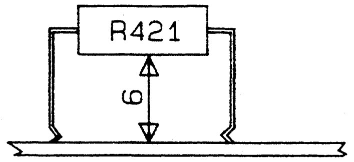
SOLDER SIDE VIEW
VISTA LATO COMPONENTI



VENDOR SHALL CERTIFY COMPLIANCE WITH THE ENVIRONMENTAL REQUIREMENTS ACCORDING TO RULE : UAN-D1783

IL FORNITORE DEVE CERTIFICARE DI ESSERE CONFORME CON I REQUISITI AMBIENTALI SECONDO LE NORME: UAN-D1783

SOLDER PASTE MASK COMP. SIDE : 8219 253 3526.3 SEE : SP01
MASCH. PASTA SALD. LATO COMP.: VEDI:

SOLDER PASTE MASK SOLDER SIDE: 8219 253 3527.1 SEE : SP02
MASCH. PASTA SALD. LATO SALD.: VEDI:

CLASS NO. 203 3572	VIDEO INTERFACE C2082VS DAS	3119 208 6247	1	92-07-13
			1	92-02-10
			1	92-04-13
NAME GIAMPIERI	SUPERS.	1 SH.	SH. 110 — 1	1	92-07-09
AN	PROPERTY OF FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY	CHECK	DATE 91-09-11	FORM. A3

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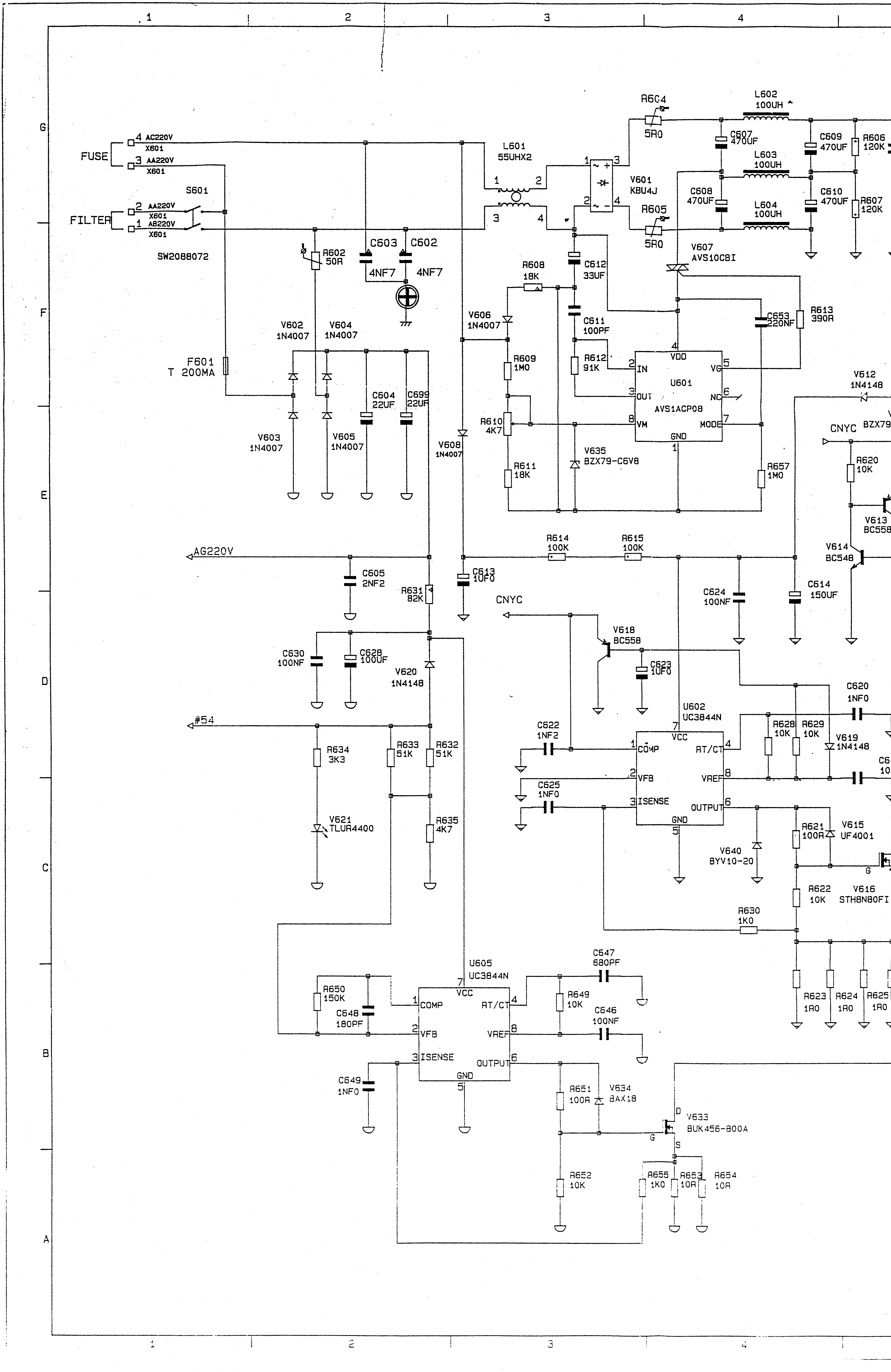
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X601
1 AB220V
X601
S601
SW2088072
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T 200MA
L601
55UHX2
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4
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50R
C603
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C602
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5R0
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100UH
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C608
470UF
C609
470UF
C610
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120K
R607
120K
V607
AVS10CBI
R608
18K
C612
33UF
C611
100PF
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91K
C653
220NF
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1M0
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4K7
R611
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V635
BZX79-C6V8
R657
1M0
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AVS1ACP08
VDD
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OUT
NC
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VG
MODE
GND
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1N4007
V604
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1N4007
V605
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C699
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V608
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V614
BC548
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R632
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C622
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C625
1NF0
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ISENSE
VCC
RT/CT
VREF
OUTPUT
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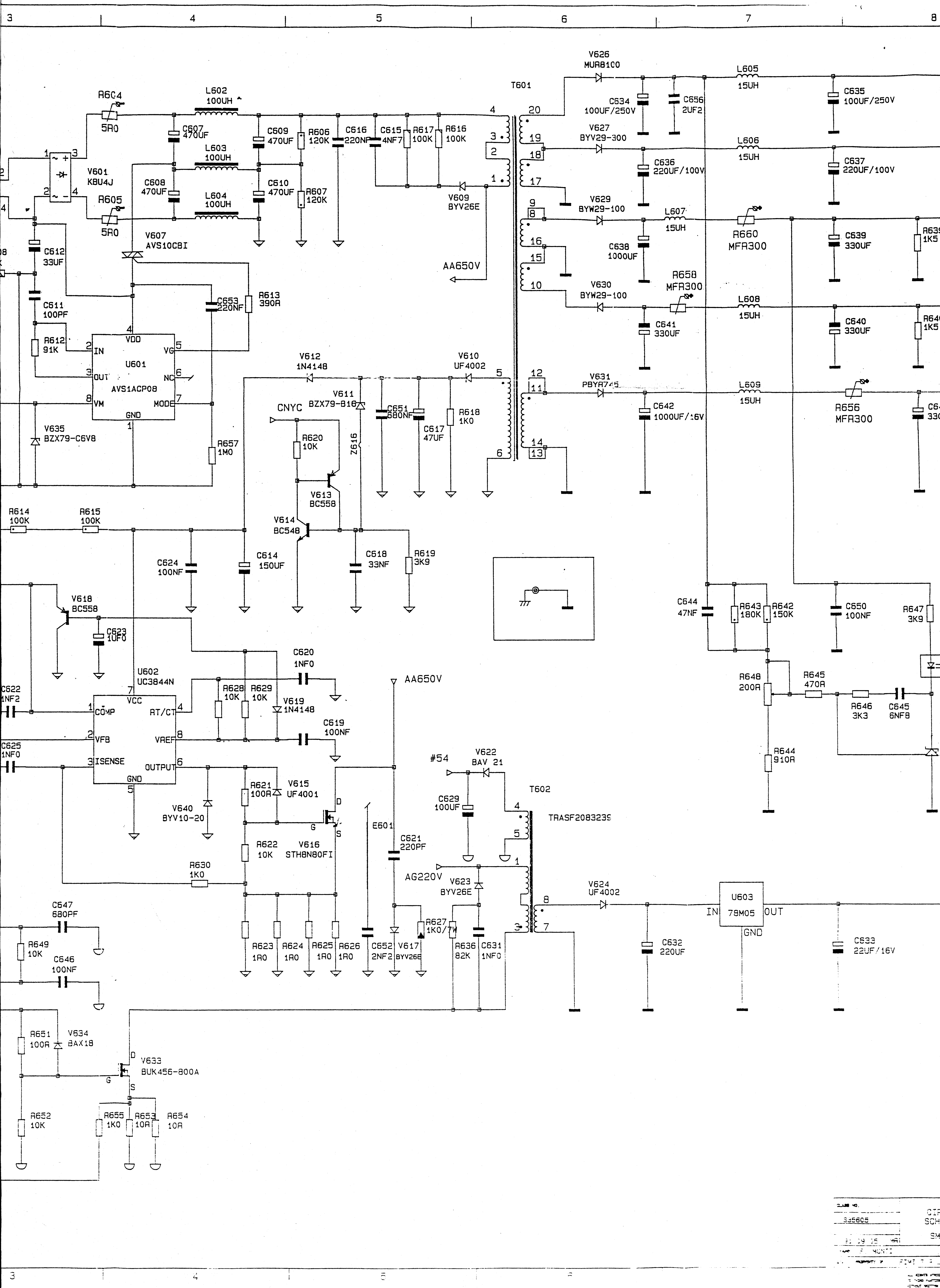
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5R0
V601
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C610
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R607
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C616
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C615
4NF7
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R616
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V609
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C656
2UF2
L605
15UH
C635
100UF/250V
V627
BYV29-300
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15UH
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V629
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V630
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BAX18
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BUK456-800A
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10R
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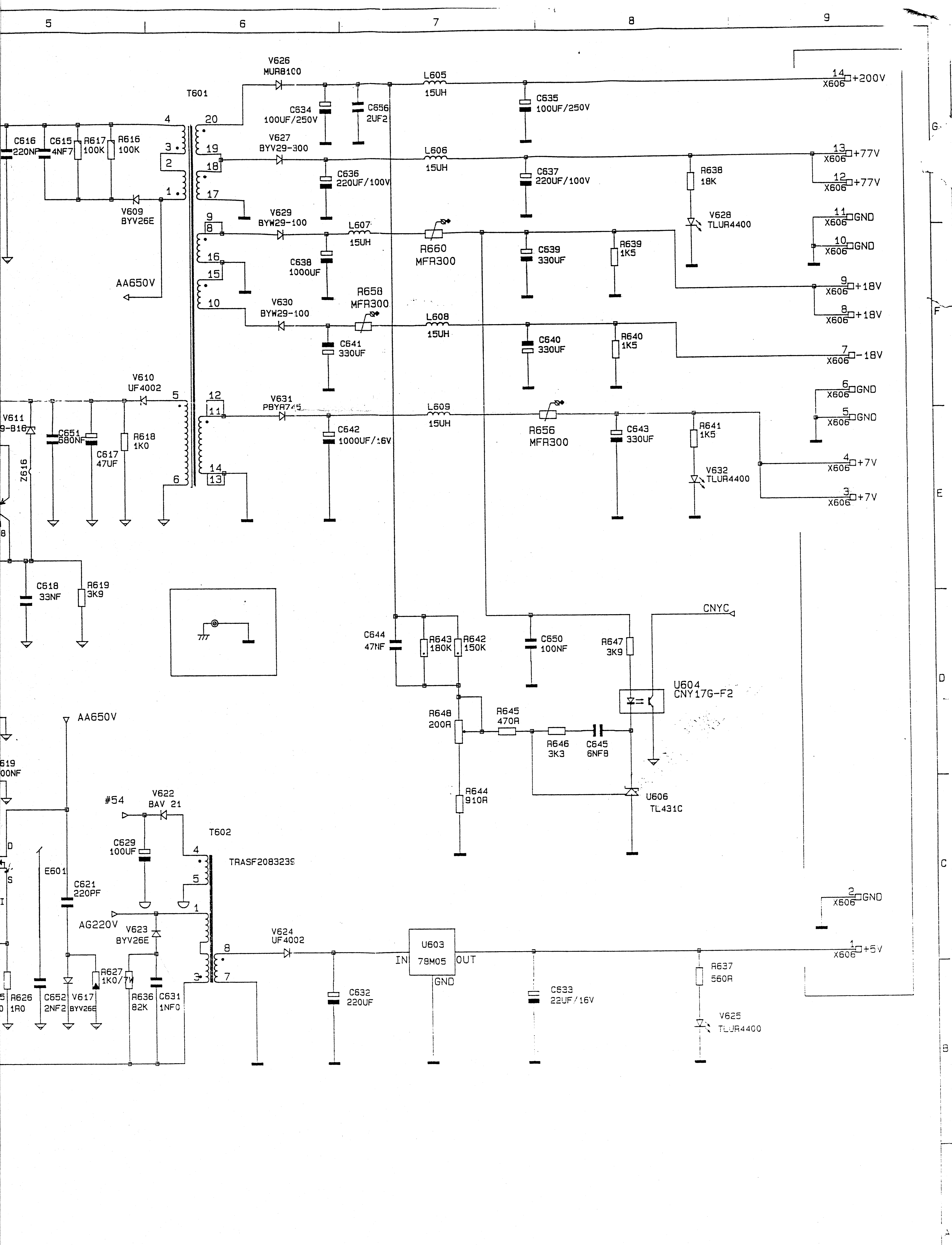
CLASS NO.
S35605
CIR
SCH
SM
F. MONTI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22UF/16V
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2NF2
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BYV26E
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82K
C631
1NF0
V625
TLUR4400

CP 8098

CLASS NO.
S35605
91.09.05 MA

CIRCUIT DIAGRAM
SCHEMA ELETTRICO
SMPS C2082 DAS

3119 208 6028

1	94.03.14
1	93.03.08
1	93.05.25
1	93.07.08
	93.09.15

F. MONTI
SUPERS.
1 SH.
SH. 130 - 1
PROPERTY OF FIMI S.p.A. - MILANO - FABB. SARONNO - ITALY
CHECK
DATE 91.09.05
A1

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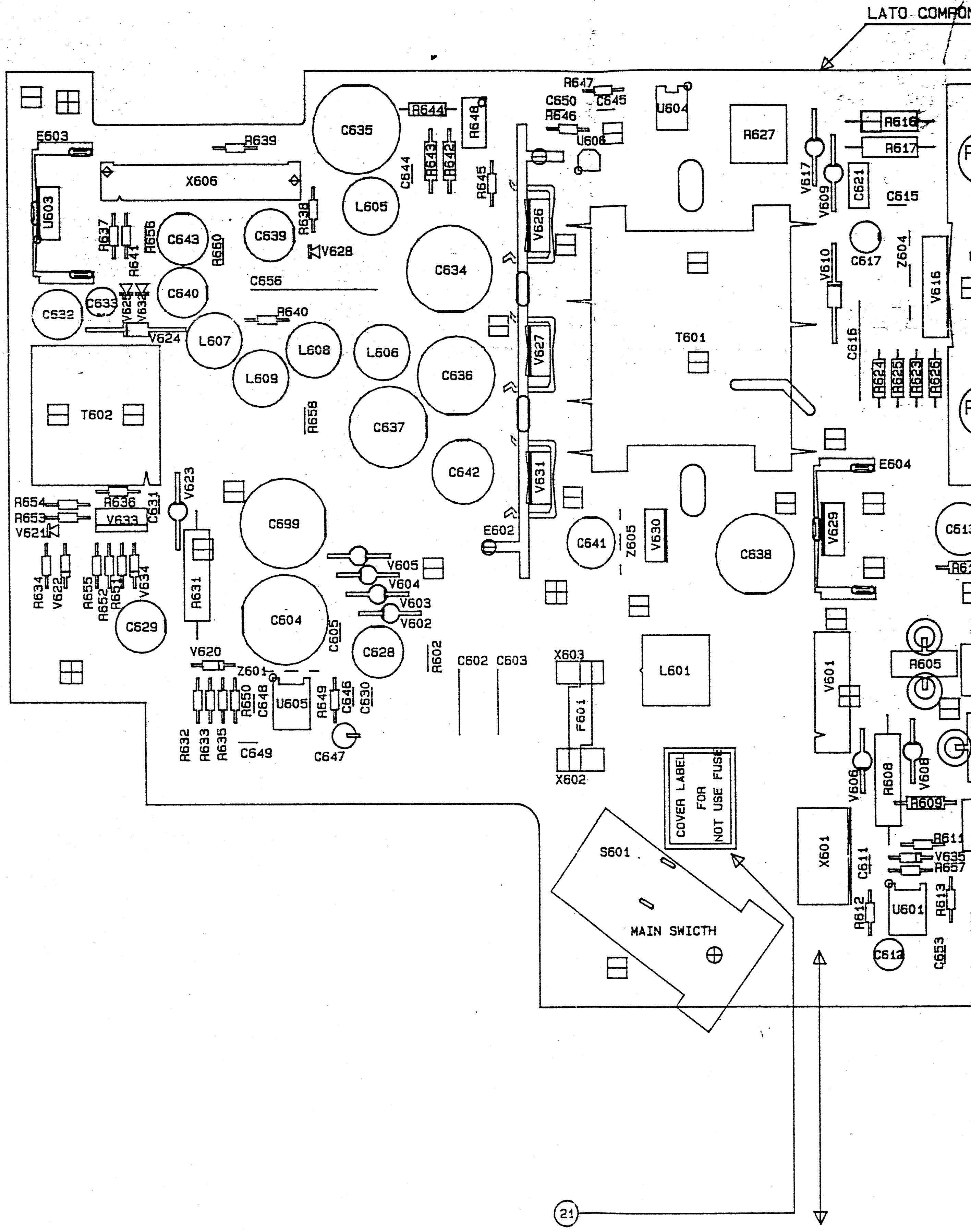
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V625
V634
C640
R640
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V602
C604
C605
C628
R602
C602
C603
X603
L601
V601
R605
V620
Z601
C648
R650
U605
R649
C646
C630
F601
R632
R633
R635
C649
C647
X602
COVER LABEL FOR NOT USE FUSE
V606
R608
V608
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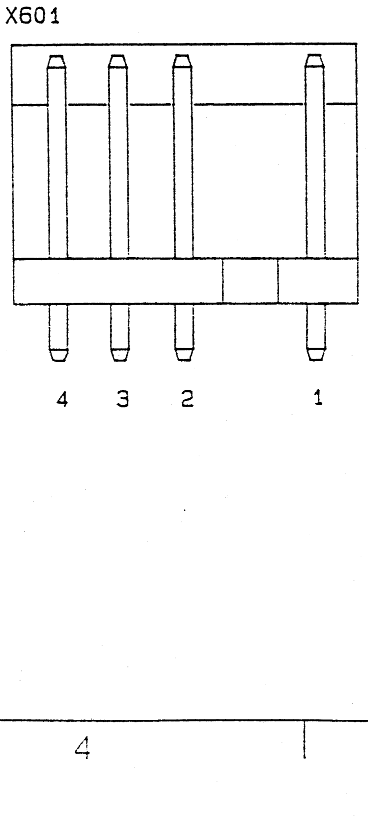
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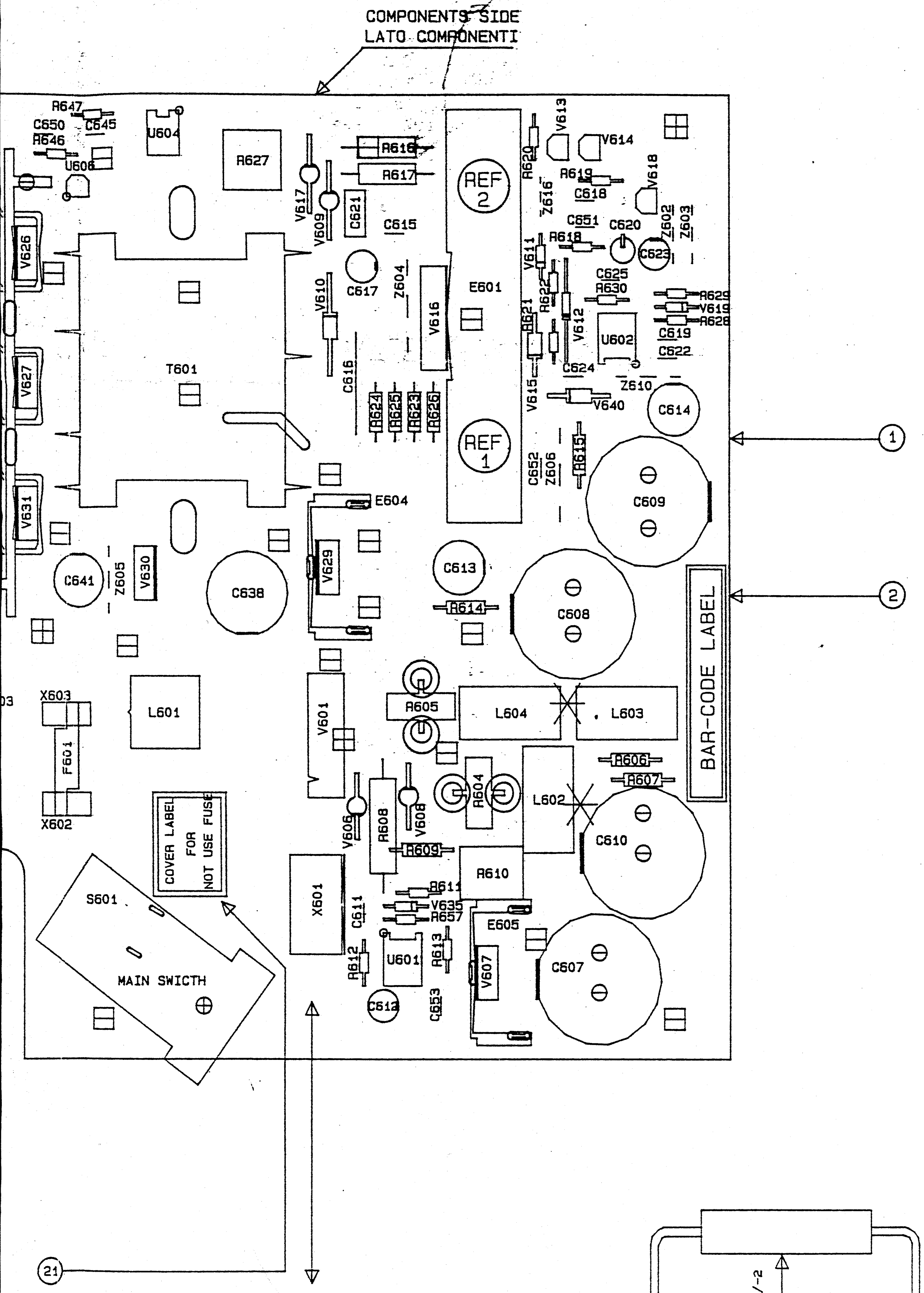
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R646
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V609
C621
C615
REF 2
V613
V614
R620
R619
Z616
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R618
V611
C623
Z602
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R608
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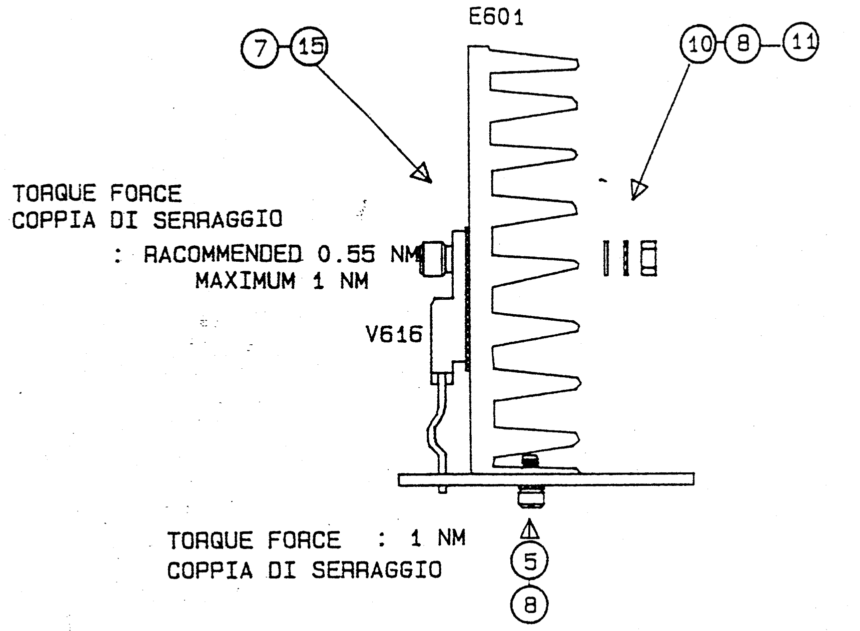
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15
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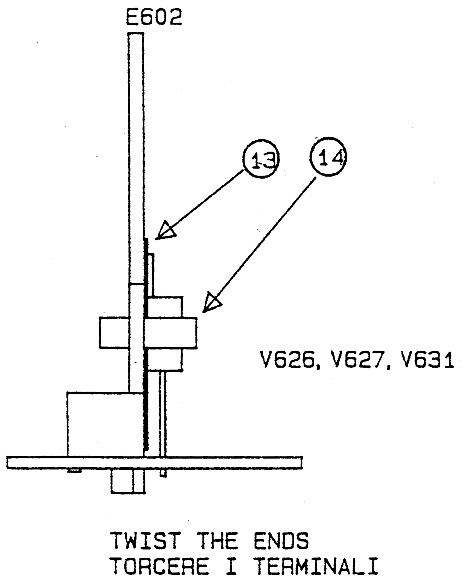
11
TORQUE FORCE
COPPIA DI SERRAGGIO
: RACOMMENDED 0.55 NM
MAXIMUM 1 NM
V616
TORQUE FORCE : 1 NM
COPPIA DI SERRAGGIO
5
8

ITEM REF.1 TO MOUNT SCREW + LOCK WASHER
IN POS. REF.1 MONTARE VITE+RONDELLA DENTEL

ITEM REF.2 ONLY SCREW
IN POS. REF.2 SOLO VITE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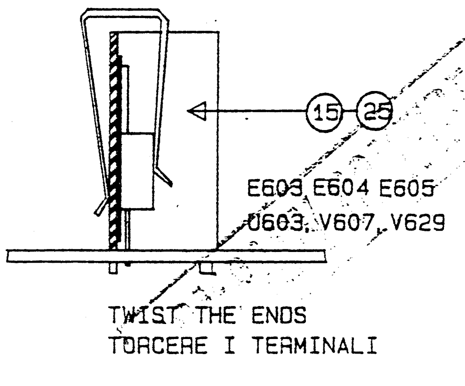
14
V626, V627, V631
TWIST THE ENDS
TORCERE I TERMINALI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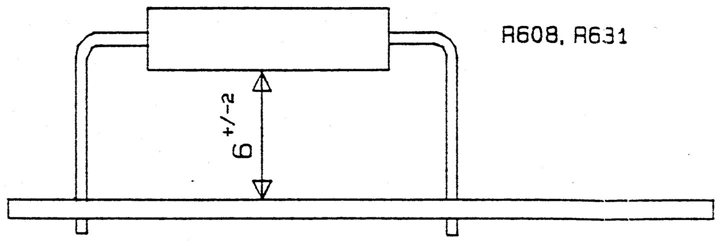
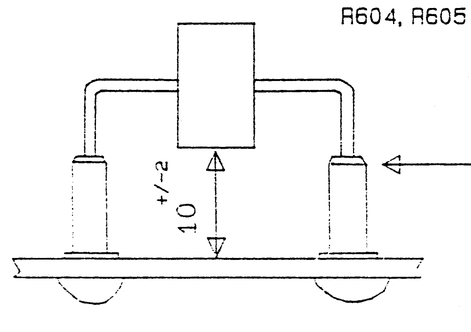
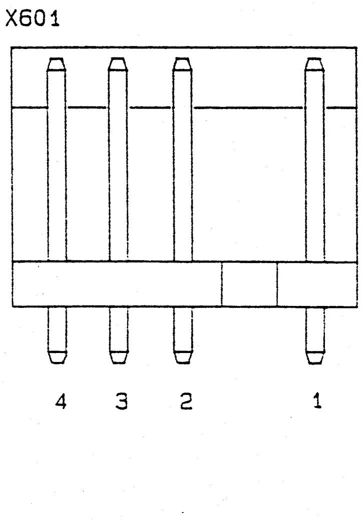
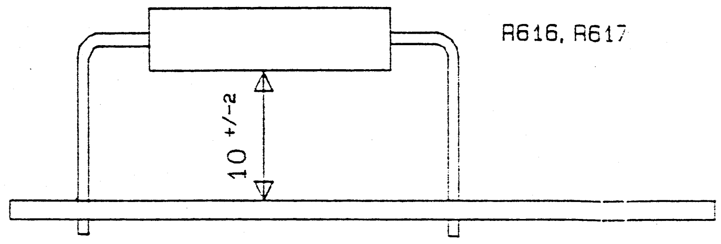
25
E603 E604 E605
U603, V607, V629
TWIST THE ENDS
TORCERE I TERMINALI


R608, R631
6 +/-2


R604, R605
10 +/-2




R616, R617
10 +/-2

CLASS NO.			P.C.B. PANEL ASSY ASSIEME PANNELLO S.M.P.S C2082 DAS	31
35605				
-				
31.03.15	MR			
NAME F. MONTI		SUPERS.		1 SH
AN	PROPERTY OF	FIMI S.R.L. - MILANO - FABB. SARONNO - I		

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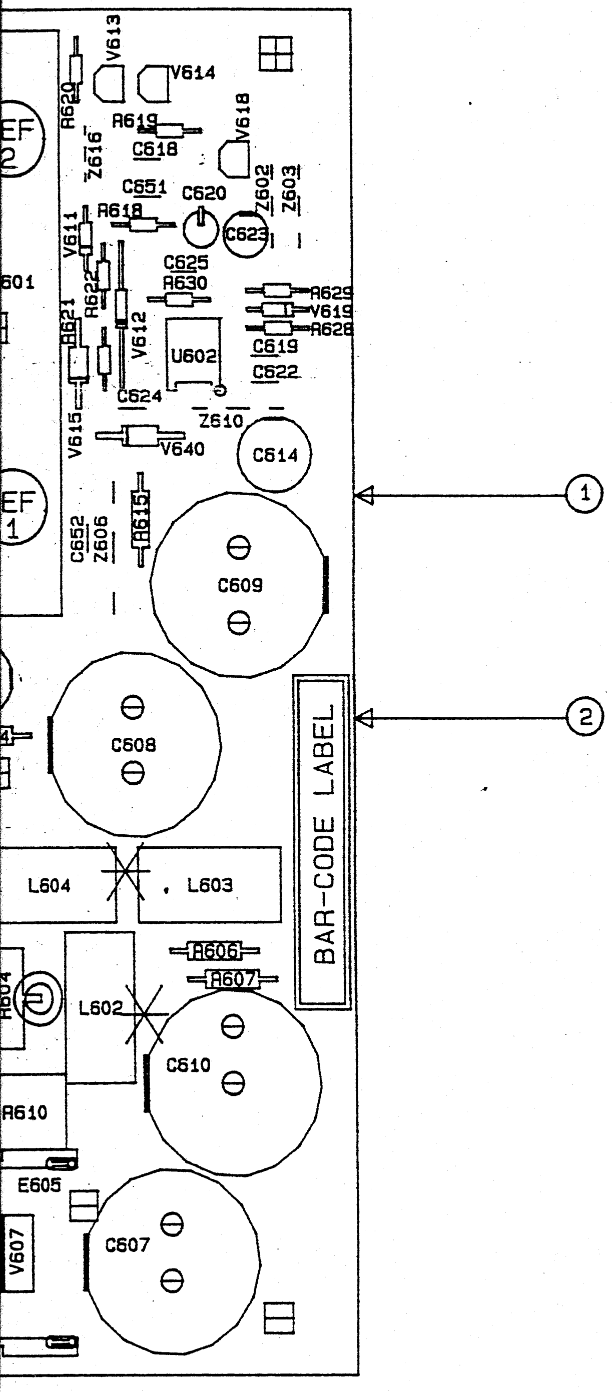
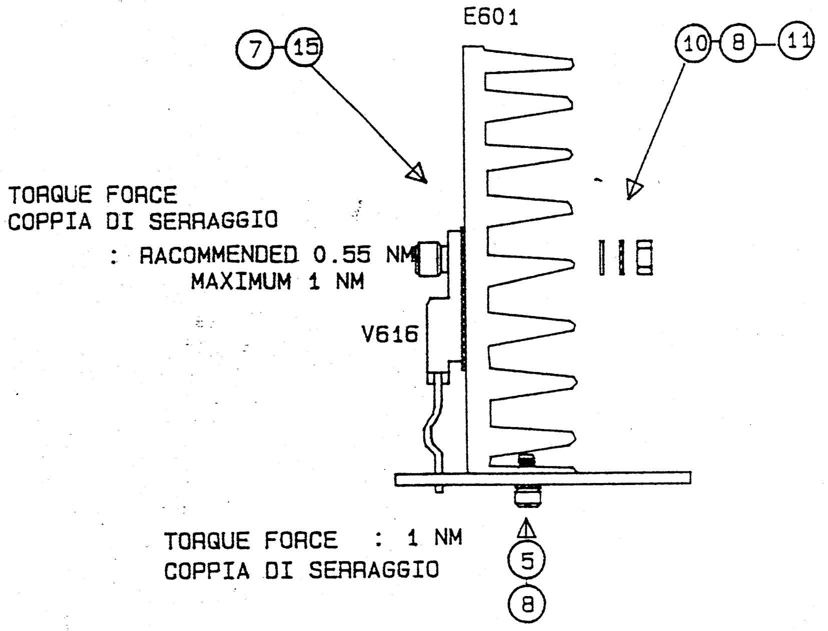
SIDE
ENTI


V613
V614
R620
R619
Z616
C618
V618
C651
C620
Z602
Z603
R618
C623
V611
C625
R630
R629
V619
R628
R621
R622
V612
U602
C619
C622
C624
Z610
V615
V640
C614
C652
Z606
R615
C609
C608
BAR-CODE LABEL
L604
L603
L602
R606
R607
C610
R610
E605
V607
C607
1
2

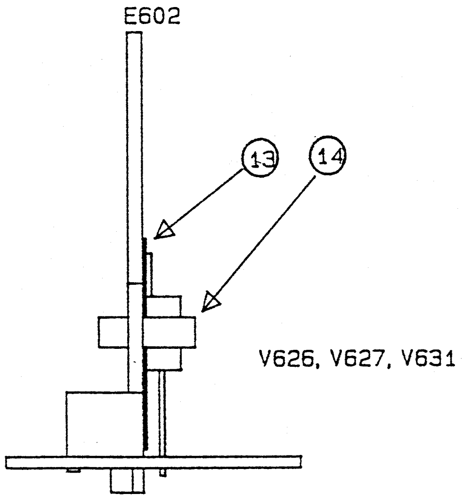

E601
7
15
10
8
11
V616
5
8

TORQUE FORCE
COPPIA DI SERRAGGIO
: RACOMMENDED 0.55 NM
MAXIMUM 1 NM

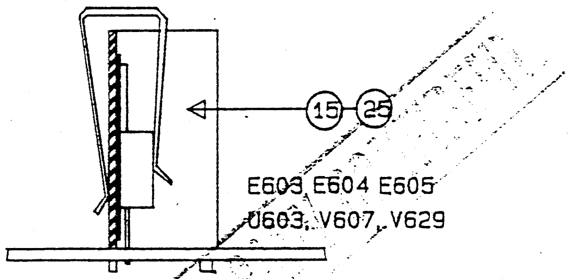
TORQUE FORCE : 1 NM
COPPIA DI SERRAGGIO

ITEM REF.1 TO MOUNT SCREW + LOCK WASHER
IN POS. REF.1 MONTARE VITE+RONDELLA DENTELLATA

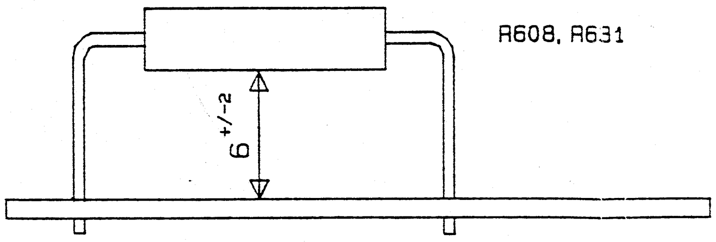
ITEM REF.2 ONLY SCREW
IN POS. REF.2 SOLO VITE

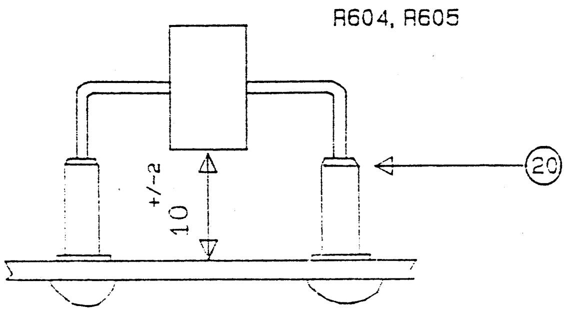

E602
13
14
V626, V627, V631

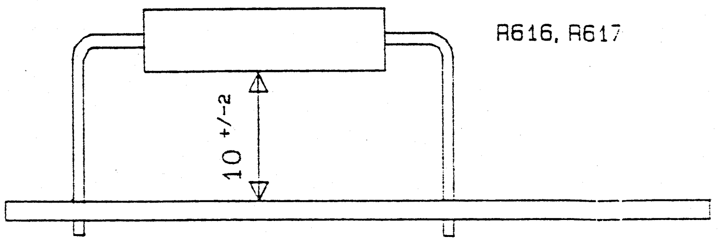
TWIST THE ENDS
TORCERE I TERMINALI


15
25
E603, E604 E605
U603, V607, V629

TWIST THE ENDS
TORCERE I TERMINALI


R608, R631
6 +/-2


R604, R605
10 +/-2
20


R616, R617
10 +/-2

CP 6098

CLASS NO.	P.C.B. PANEL ASSY ASSIEME PANNELLO S.M.P.S C2082 DAS	3119 208 6228	1	92.07.14
35605			1	92.12.11
-			1	93.05.25
91.03.15 MR			1	93.07.08
NAME F. MONTI	SUPERS.	1 SH.	SH. 110 — 1	1	94.03.15

AN | PROPERTY OF FIMI S.R.L. - MILANO - FABB. SARONNO - ITALY | CHECK | DATE 91.09.11 | FORM. A2

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TUTTI I DIRITTI SONO STRETTAMENTE RISERVATI. LA RIPRODUZIONE O LA COMUNICAZIONE A TERZI E VIETATA IN QUALSIASI FORMA SENZA AUTORIZZAZIONE SCRITTA DELLA PROPRIETARIA.